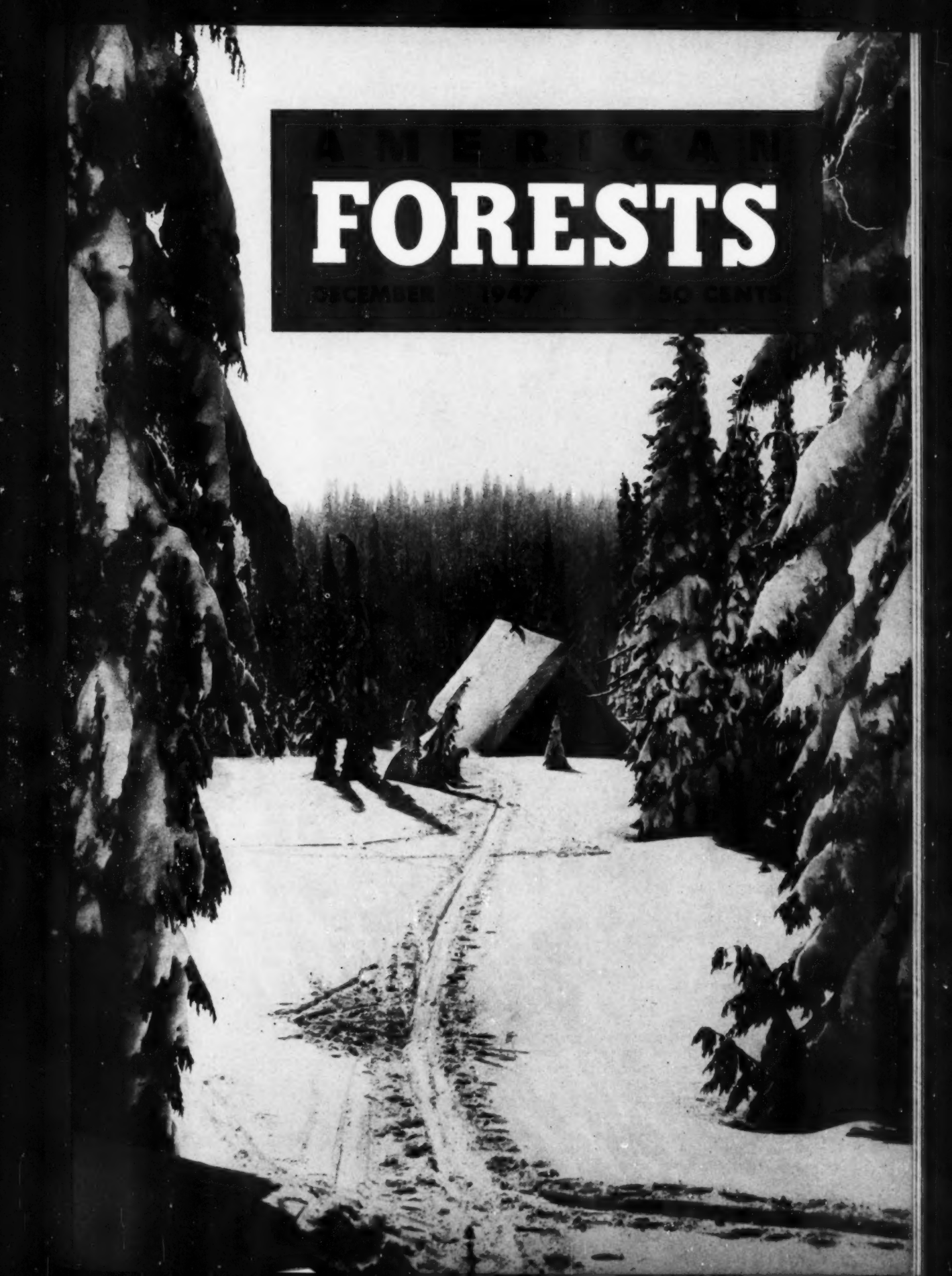

AMERICAN
FORESTS
DECEMBER 1947
50 CENTS

THE RESPONSIBILITY OF MANAGEMENT IN THE BELL SYSTEM

IT USED TO BE that the owners of practically every business were themselves the managers of the business. Today, as far as large businesses are concerned, a profound change has taken place. In the Bell System, for instance, employee management, up from the ranks, and not owner management, is responsible for running the business.

This management has been trained for its job in the American ideal of respect for the individual and equal opportunity for each to develop his talents to the fullest. A little thought will bring out the important significance of these facts.

Management is, of course, vitally interested in the success of the enterprise it manages, for if it doesn't succeed, it will lose its job.

So far as the Bell System is concerned, the success of the enterprise depends upon the ability of management to carry on an essential nationwide telephone service in the public interest.

This responsibility requires that management act as a trustee for the interest of all concerned: the millions of telephone users, the hundreds of thousands of employees, and the hundreds of thousands of stockholders. Management necessarily must do the best it can to reconcile the interests of these groups.

Of course, management is not infallible; but with its intimate knowledge of all the factors, management is in a better position than anybody else to consider intelligently and act equitably for each of these groups—and in the Bell System there is every incentive for it to wish to do so.

Certainly in the Bell System there is no reason either to underpay labor or overcharge customers in order to increase the "private profits of private employers," for its profits are limited by regulation. In fact, there is no reason whatever for management to exploit or to favor any one of the three great groups as against the others and to do so would be plain stupid on the part of management.

THE BUSINESS cannot succeed in the long run without well-paid employees with good working conditions, without adequate returns to investors who have put their savings in the enterprise, and without reasonable prices to the customers who buy its services. On the whole, these conditions have been well-met over the years in the Bell System.

Admittedly, this has not been and is not an easy problem to solve fairly for all concerned. However, collective bargaining with labor means that labor's point of view is forcibly presented. What the investor must have is determined quite definitely by what is required to attract the needed additional capital, which can only be obtained in competition with other industries.

AND in our regulated business, management has the responsibility, together with regulatory authorities, to see to it that the rates to the public are such as to assure the money, credit and plant that will give the best possible telephone service at all times.

More and better telephone service at a cost as low as fair treatment of employees and a reasonable return to stockholders will permit is the aim and responsibility of management in the Bell System.

Walter S. Gifford

WALTER S. GIFFORD, *President*
AMERICAN TELEPHONE AND TELEGRAPH COMPANY

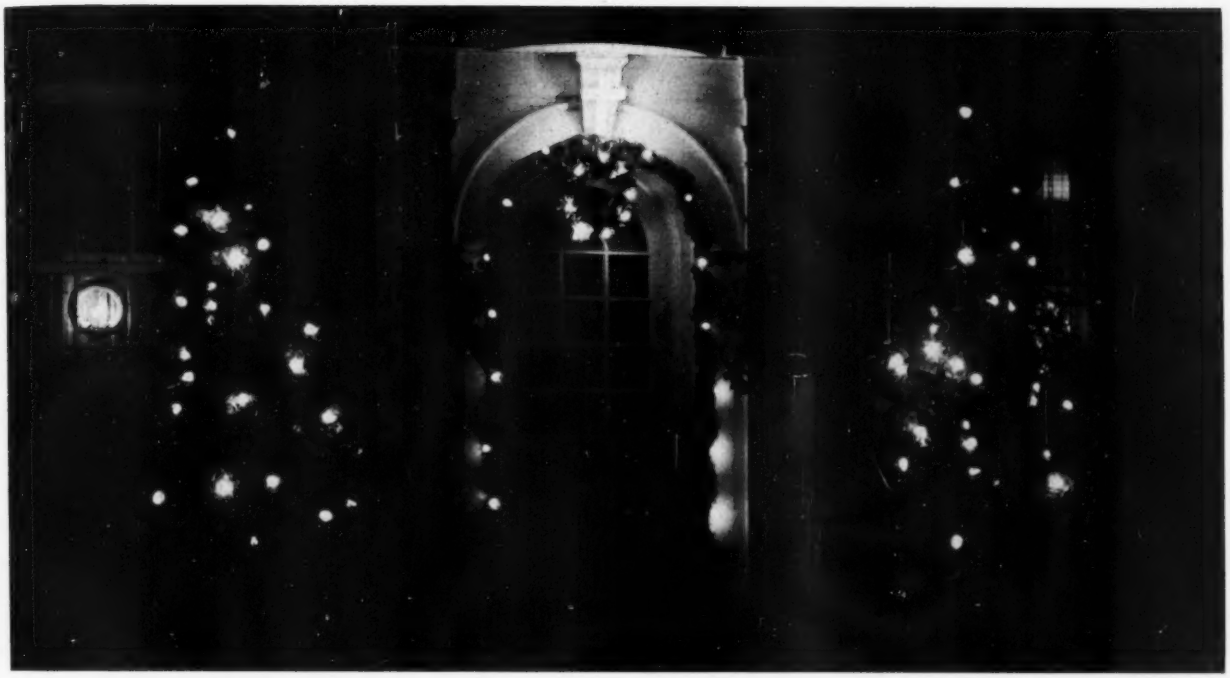


Photo by Horydczak

AMERICAN FORESTS

Published by The American Forestry Association

OVID BUTLER
Editor-in-Chief

ERLE KAUFFMAN
Editor

ALBERT G. HALL
Associate Editor

JAMES B. CRAIG
Assistant Editor

FRED E. HORNADAY
Advertising Director

DECEMBER, 1947

VOL. 53 NO. 12

CONTENTS

Cover Photograph by Ray Atkeson

THE AMERICAN FORESTRY ASSOCIATION

919 SEVENTEENTH STREET, N.W., WASHINGTON 6, D. C.

The Purpose

The American Forestry Association is a national organization—educational in character—for the advancement of the intelligent management and use of the country's forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is (1) to bring about adequate protection and perpetuation of these resources by creating an enlightened public appreciation of the need of conserving them through wise use for the present and future welfare and enjoyment of all the people; (2) to make available to Americans in all walks of life a wider knowledge and appreciation of their forest resources and the part they can play in the social and industrial life of our nation.

The History MORE THAN half a century ago American men and women of vision, stirred by the rapid destruction of forests and forest life in the United States, began to raise their voices in behalf of conservation. Foreseeing the danger of allowing America's rich forests and vast natural wealth to be thoughtlessly wasted, these public-spirited individuals protested the needless destruction that was taking place. Out of their efforts came a collective force—The American Forestry Association, first organized in 1875 and made a national influence in 1882.

The Record THUS The American Forestry Association has a long record of efficient public service. The establishment of the United States Forest Service and the creation of the nationwide system of state and national forests and parks were due in no small part to the Association's efforts. Its educational work, extending over more than seventy years, has stimulated public action and built public support for protection against forest fires and floods; for prevention and control of soil erosion; for the development of conservation policies in forest management for continuous production through wise use; for the control of forest insects and diseases and the preservation of fish and wildlife.

The Support FROM AN ORGANIZATION of a few hundred members three decades ago, the Association has attained a substantial membership of many thousand men and women, living in every state in the Union and in foreign countries throughout the world. The funds of the Association are administered by a Board of Directors composed of individuals of national standing—men and women who give their services free, who have a practical understanding of the nation's present-day conservation needs, and are equipped through experience, ability, enthusiasm and training to advance the Association's program.

The Program BECAUSE OF its independent, non-political character, the work of The American Forestry Association is vitally necessary in the field of public service. It provides an unprejudiced influence for the development of sound conservation measures. It helps coordinate public, state and federal policies. It cooperates closely with federal, state and private agencies in conservation work. At the same time it initiates, sponsors and carries on needed projects in conservation in addition to its regular broad continuous program of education.

MY FAVORITE TREE

By

FRANCES PARKINSON KEYES

André Snow

IT is hard for me to be categorical and say absolutely which is my favorite tree. Certainly the pine is the tree about which I have the most sentiment and which meant the most to me during the long winters when I was snowbound at Pine Grove Farm, near North Haverhill, New Hampshire, where I went as a bride.

When this farm was acquired by my father-in-law, it was already enriched by three natural pine groves. My father-in-law planted another and my husband still another, and as soon as my sons were old enough to hold a spade, their father began the supervision of further planting by them, while continuing his own. For many years, at least three thousand little pine trees were set out every spring and the same number every fall, representing the joint labor of my husband and sons, and a surprising number of these grew and flourished. Now when I am at home, I can look out of my window on three generations of pine trees, realizing all that they mean in devoted, creative effort.

I could not honestly say, however, that I feel the pine is the most beautiful of all trees. In beauty, I think that the wine glass elm of New England surpasses all others in grace and delicacy, just as the New England maple surpasses all others in brilliant color when its leaves begin to turn. Unfortunately, however, the supreme beauty of the former is limited to the summer months and that of the latter to one brief month in the autumn. On the other hand, the live oak of the Deep South, which is fast becoming my adopted homeland, is beautiful the year round and its enduring verdure a never ending source of delight.

These then are the four trees which, in one sense or another, possess, to my mind, the greatest claim to beauty. I am happy when anyone of them is in sight. I believe I could not long be happy if deprived of the sight of all.

Good Will and Fire Prevention

SIR: Not long ago, the woods superintendent for a large lumber company investigated a costly forest fire in the back country hills of a southern state. With the skill of a detective, he eventually found an old settler who had all the earmarks of guilt. After submitting to questioning, the old man admitted starting the fire and then mumbled, "Out here, if we like you, we die for *you*—if we don't like you, you die for *us!*"

The woods superintendent, knowing that stray shots usually find their marks in the hills, decided that the investigation had gone far enough and let the matter drop.

This spirit of "You die for *us*," accounts for many forest fires. Disgruntled people frequently set fire to the woods and when this occurs, it is not only difficult to find the guilty party, but almost impossible to secure a conviction for the crime.

In the far-flung, sparsely settled areas where most large timber holdings are located, the enforcement of law and order is weak, while the elements of hate or good will are strong, according to their cultivation.

The value of the cultivation of good will under such circumstances can be easily understood when it is known that about 25 percent of all forest fires are caused by incendiaries, inspired by grudges against timber owners. This ill will is created by land line grazing disputes, unfortunate sales and purchasing policies, and many fancied grievances which the lack of diplomacy on the part of the timber owner or his employees aggravates.

Management personality, which is the ability to influence employees and the public in a favorable direction, is too often lacking among timber owners. The "hammer and tongs" method of doing business, so prevalent in the early rough and tumble lumbering days, has not yet been thoroughly discarded. The importance of diplomacy in dealing both with employees and the public is frequently overlooked at high cost. When it is cultivated, however, the results are marked, for it creates the "We die for *you!*" attitude among those living near timberlands—and this affords the best kind of fire protection.

An example of this spirit was given recently by a 76-year-old Arkansas farmer who walked three miles on a dusty road to report a fire in a lumber company's woods. Upon receiving the information, the manager of the lumber company quickly sent a crew of men to the fire and had it extinguished before much damage had taken place.

The warning in this case was given because the old farmer liked the manager of the lumber company who recognized the value of management personality and the effectiveness of good will in forest fire prevention.—*Eugene P. O'Connor*, Madison, Wisconsin.

Help Needed for Forestry Training

SIR: Does The American Forestry Association have funds for providing free copies of AMERICAN FORESTS to schools? If so, I would like very much to have a subscription to the magazine sent to the department of agronomy and forestry, Alcorn A. and M. College, Alcorn, Mississippi.

Alcorn is a negro agricultural and mechanical college for this state. It is the first negro college, as far as we can find out, to put a course in forestry in its curriculum. Since its program was reorganized last December, I have heard from the forestry department of T.V.A. stating that it had helped to get a forestry teaching program organized in a negro teaching college in Alabama, which is the second negro school to start such a program.

In December of 1946, the college officials invited the heads of several departments in the School of Agriculture at Mississippi State College to help them with their curriculum, as well as their land use program on lands owned by the college. The result was a course in farm forestry and a department of agronomy and forestry, with one man teaching both. The college has 400 acres of forest land that it plans to manage as a school forest.

Alcorn A. and M. now needs textbooks and equipment. I promised Professor J. D. Boyd, who heads the department, that if he could not get the small amount of minimum equipment needed, I would lend-lease them some from our department. That is why I am writing you—to see if the association can help by giving the school at least a three-year subscription to AMERICAN FORESTS.—*Monty Payne*, Head, Department of Forestry, State College, Mississippi.

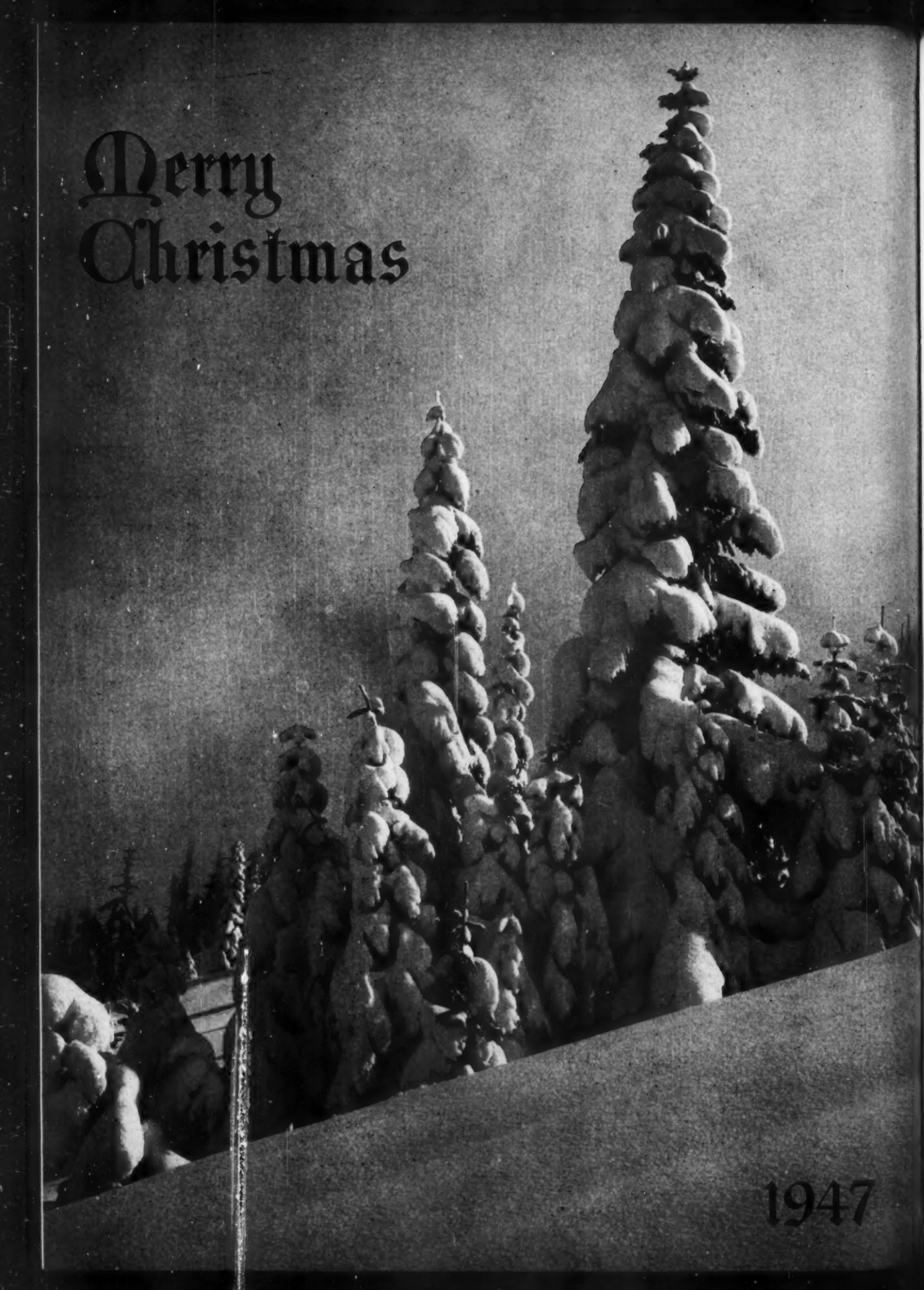
On Planting Walnuts

SIR: In 1929 I interested a man who was engaged in the lumber business to plant black walnut on his cutover lands. He told me he just started a man with a plow and told him "keep going." That meant a crooked row—indeed many of them. Behind him followed a man with a bag of black walnuts who dropped them in the furrow—in turn another plow covered the walnuts. Over 50 bushels of walnuts were used. This summer, 18 years later, he paid me a surprise visit (drove 200 miles) to say he had a fine stand of timber.

I write hoping you can use this to demonstrate how easily cutover ground be put to use.

I have given a number of young walnuts to friends, and have been impressed by their fast growth and straight stems—also how tender the bark is.

This brings me to my point. Can two of these young trees be planted close, the strip of bark between peeled off and the two taped so as to grow as one tree for 10 or more feet before branching, thus producing by artificial means a hybird that will make crotch walnut veneer?—*Bashrod Corbin Washington*, Oteen, North Carolina.


Merry
Christmas
1947

Editorial

The Olympic Issue

Some weeks ago we asked Richard L. Neuberger, well-known Pacific Northwest writer, to make a reporter's report of the Olympic National Park controversy into which a subcommittee of the House Public Lands Committee recently projected itself. It was our feeling that a dispassionate presentation of the case has become necessary in order that the fundamental issue may stand clear and may receive the consideration it demands if permanent settlement of the ten-year controversy is ever to be reached. Mr. Neuberger kindly acceded to our request and his article "The Olympics—Cockpit of Controversy" appears on page 536 of this issue. We think that he has presented the case with fair and objective impartiality.

A reading of his article, we hope, will contribute to better understanding of the case and to clearing away some of the confusion and misunderstanding that is retarding its settlement. From charges and countercharges, claims and counter-claims that now color the case, it has become well-nigh impossible for the average person to grasp the real issue. It may be, depending upon what one wishes to believe, that abolishment of the Olympic National Park is at stake, that lumbermen of the Olympic Peninsula want free rein to lumber every last stick of timber within the park, that park boundaries once drawn must never be changed, that the National Park Service in proposing an adjustment of park lines has betrayed its public trust, etc.

It is unfortunate that such representations have been generated by the heat of the controversy because they are not supportable. Certainly we do not subscribe to them. The basic question, as we would state it, is this: Do the boundaries of the Olympic National Park as now drawn include more economic resources in the form of mature timber than is required to preserve all the natural features the park was established to perpetuate? Once that question is answered settlement of the case would seem to be easily reached.

But how is the question to be answered? Certainly not by the methods that have characterized the case from its beginning. Nor by the vacillating policy, or lack of policy, of the Department of the Interior which appears to have a fear complex in coming to grips with the question. In our view the only course by which the case can be settled begins with a judicial determination of the facts and their relation to national and local interests. This position has been held by the directors of The American Forestry Association ever since the Olympic Park controversy flared up in 1936 with hopeless prospect even then of factual settlement. At that time the directors passed the following resolution:

> That the Secretary of the Interior and Secretary of Agriculture be urged to appoint jointly a committee of disinterested experts, outside the government service, to make a thorough study of the problems and policies involved and to make recommendations that may enable the two Secretaries to unite in a common recommendation to Congress.

This proposal received cold treatment at the hands of the two departments. Mr. Ickes virtually tossed it out the window with the tart implication that he could handle the case. Mr. Wallace, then Secretary of Agriculture, ignored it, as did the then President of the United States. During the intervening ten years the case has remained unsettled and a recurrent source of untempered controversy, with the result that today it is where it was ten years ago.

The directors of the Association have since reaffirmed their position feeling that it becomes increasingly urgent that the case be taken out of partisan debate and adjudicated by an impartial board or commission on a finding of facts. By whom this board or commission is appointed is immaterial so long as its members command public confidence. This is accepted procedure for the settlement of issues affecting the public welfare, and certainly the national and local interests inherent in the Olympic case command more judicial consideration than they have had to date.

"Christmas Tree Land," Mt. Hood, Oregon
Photograph by Ray Atkeson

W. H. Horning

For years the great cedars and other timber trees of the Olympics have stirred contention

Asahel Curtis

To maintain regional economy, labor and industry would free 250,000 acres for logging

THE OLYMPICS—
Cockpit of Controversy

By RICHARD L. NEUBERGER

The Aleutian winds which drench the western fringe of the Olympic Peninsula with 128 inches of annual rainfall are no more stubbornly perennial than the controversy involving the vast national park that bears the peninsula's name. Strife attended the creation of the Olympic National Park in 1938; this strife had its origin long before, in the frontier era of the Pacific Northwest. As early as 1897 President Cleveland had defied the United States Senate to set aside the Olympic Forest Reserve of 2,188,800 acres.

Through every hour of daylight and darkness of the park's existence, the polemics have continued. They are at a new crest today, when the demand for reduction in the 848,000-acre area of the Olympic National Park is a critical domestic issue before the 80th Congress. No less than half-a-dozen bills seeking such a reduction have been dropped in the hopper during the past year.

Nearly a decade ago the Olympic National Park was established. This was the culmination of a drama which pitted the Park Service against the Forest Service in grim and bitter combat; it had the Secretary of the Interior and the Secretary of Agriculture in President Roosevelt's cabinet, men both ideologically New Dealers, accusing each other of unworthy motives; it nearly tore apart the Democratic Party in the state of Washington; and in a last desperate act in the theatrical performance, settlers from the park area paraded defiantly through the streets of Olympia, Washington's capital, demanding that the governor call out the militia to protect their homes.

In the same atmosphere of tension and accusations, the drama goes on today.

For the first time in its history the National Park Service agreed to a reduction in the size of a park; then the agency abruptly reversed itself and revoked the agreement. Harold L. Ickes, the ex-Secretary of the Interior, is denouncing Newton B. Drury, appointed by Mr. Ickes himself to head the National Park Service, for "turning over some 50,000 acres of the incomparable 'rain

---

THE AUTHOR, keen observer of events in the Pacific Northwest, is author of *Our Promised Land* and other books, a contributor to leading American magazines, including the *Saturday Evening Post,* and correspondent for the New York *Times.*

Proponents of a reduction in the area of the park argue that removal of up to ten billion board feet of timber would not detract from the scenic grandeur and recreational features of the Olympics

forest,' containing thousands of the finest trees of the Olympic National Park, to the lumber interests." And Governor Mon C. Wallgren of Washington, opposing substantial diminution in the domain of the park, is at odds with his fellow Democrats in the state's congressional delegation.

What are the fundamental issues of this angry and enduring quarrel? What is the likelihood of their solution?

Of the 25 national parks within the United States, Olympic is exceeded in dimensions only by Yellowstone and Glacier. These parks, on the gaunt lodgepole pine uplands of the Rocky Mountains, contain scant commercial timber. The Olympic National Park, sweeping upward from sea level in great aprons of green, encloses at least 17 billion board feet of Douglasfir, hemlock and cedar. Both labor and management in western Washington contend this is a luxury the region cannot afford. To withdraw so much growth from the production of lumber is to leave many mills stranded for lack of logs. Already mills along Grays Harbor get their raw material from Siletz in Oregon, 220 miles away. At a certain point this distant wayfaring in quest of logs ceases to be economically feasible.

Lumbermen insist the boundaries of the Olympic National Park should be constricted to free at least 250 thousand acres for logging. They claim this would impair in no particular the scenic and recreational value of the park.

The alpine core of the Olympic National Park was reserved as a national monument by President Theodore Roosevelt in 1909. During the first World War the size of the monument was trimmed to approximately

Stan Spiegle

In the conflict which raged over creation of the park in 1938, protesting local settlers paraded through Olympia

Defenders of present boundaries contend that any logging would destroy the unique forest wilderness of the park. This wilderness, they insist, should be maintained for the enjoyment of the people

300 thousand acres. The additional half million acres to form Olympic National Park were largely wrested from the Olympic National Forest. Indeed, the national forest now fringes the park like the tassels of a great sprawling carpet. This is the predominant reason why the jurisdictional feud between park men and forest men nearly reached the six-shooter stage in 1938, before F. D. R. issued a stern order silencing all combatants in general and the Forest Service people in particular. Ironically enough considering future developments, Henry A. Wallace, then Secretary of Agriculture, was one of the main objectors to this order.

M. Brown

"The timber should remain in the Olympic National Forest," maintained Mr. Wallace, early in the park controversy. "The proposed park is unnecessary to preserve values of national significance. . . . It would markedly upset the prevailing economy of the Olympic Peninsula."

That the prediction of Mr. Wallace has come to pass is scarcely a moot question. Early this year economists of the Bonneville Power Administration carried out an industrial study of Grays Harbor County. "Timber stands in the county are so depleted that even the demands for defense and war did not stimulate log production," they concluded. "Only a very few sawmills can hope to operate more than five years on the timber resources available at the present time."

Like Bret Harte's Mr. John Oakhurst, "who was at once the strongest and yet the weakest of the outcasts of Poker Flat," this fact is both the strength and weakness of those who advocate reduction in the area of the Olympic National Park.

(*Turn to page* 563)

Whatever the outcome of the controversy, areas where artists may sketch and mountaineers climb will be preserved

FOUR FLAMING DAYS

Not in a century has the Pine Tree State suffered such grievous losses from forest fire. Here is a first-hand account of the disaster and the causes leading up to it

By A. G. HALL

REMEMBER Bar Harbor!

This warning doubtless will be heard for years to come wherever fire control planners gather—or at least until a greater tragedy pushes it into the background. The 3,500 people who fled the famed Maine resort in October when flames raced in from the surrounding woodlands will never forget it.

The burning of Bar Harbor, however, was but one phase of the fire disaster that struck Maine and other New England states at the peak of an unprecedented drought period this fall. But it was the most tragic—and certainly the most costly. Property damage of $10,000,000 was a third of the total for the state. Nearly 400 homes, including 60 large estates, were destroyed in this summer resort center.

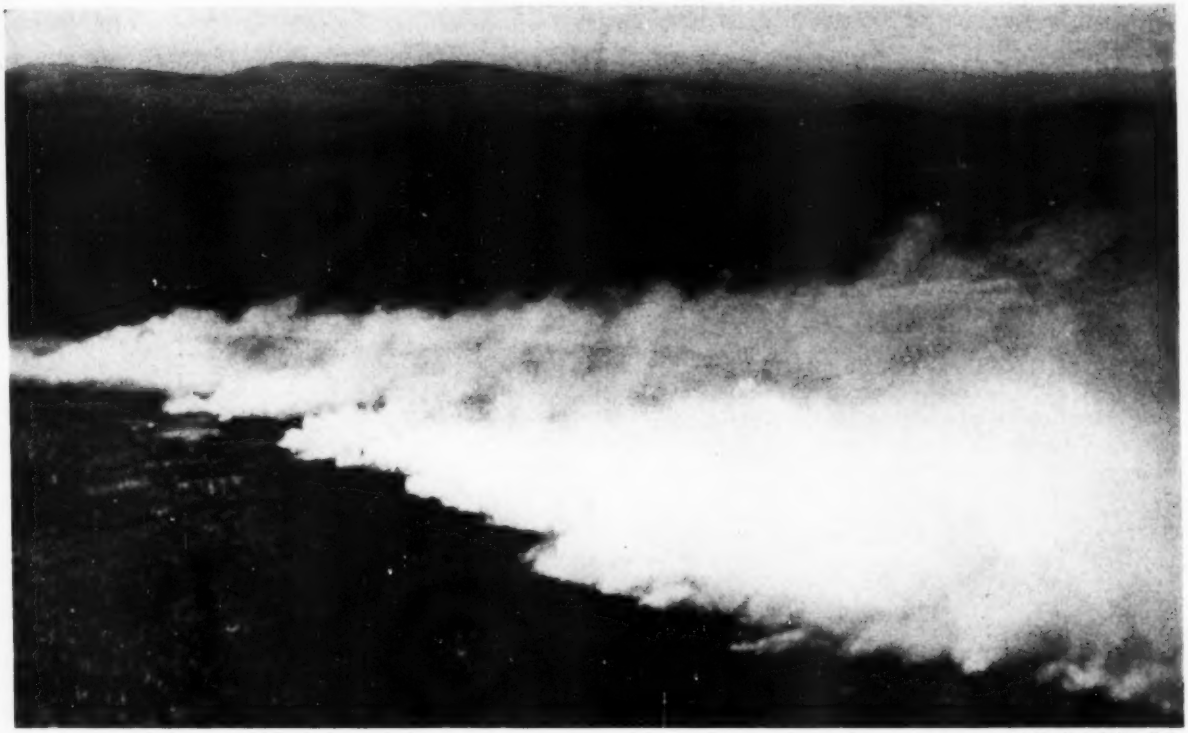
Forest officials estimate that October fires burned over 240 thousand acres in the state, 233 thousand in southern and coastal Maine and 7,000 in the northern districts. Sixteen lives were lost—2,500 people were made homeless. All told, more than 800 homes were destroyed. Timber loss has not as yet been estimated, but property damage may exceed $32,000,000.

What is the story behind these disastrous Maine fires? To reconstruct the scene, the rains of April, May and June were followed by prolonged drought. Thus in October the state for all practical purposes was completely dessicated. Forest areas were floored with dry, moisture-hungry humus, up to three feet deep. In many regions swamps dried up, leaving only powder-dry masses of leaf mold, several feet thick, lightly covered with this year's accumulation of leaves and needles. Even the lakes, which dot the state had receded from their shorelines. Many were reduced to small puddles, rimmed by adobe-hard mud.

As the drought went into its third month, wood in buildings became dangerously dry. Moisture in shingles, clapboards and wooden steps was reduced by the evaporating rays of the sun. To top off fire conditions, Maine was enjoying an unusually warm autumn season. Temperatures

Press Association, Inc.

rm buildings stand in the path of fires near Newfield, Maine, on the first day of the "big nd." Grass fields and plowed areas proved to be no effective barrier to the fires' spread



Press Association, Inc.

Typical of the New England scene on October 23 is this fire advancing through Farmington, New Hampshire. The fires did not reach into the White Mountains which rise in the background

Press Association, Inc.

The Biddeford-Kennebunk fire swept on to the Atlantic Ocean. Here, in its final display of vigor, it consumes cottages and summer homes in the famous Goose Rocks Beach colony

remained high—even the nights were warm. Seldom was there enough change to precipitate any appreciable dew.

Throughout the rest of New England—in Vermont, New Hampshire, Connecticut, Massachusetts and Rhode Island—conditions were only slightly less extreme. The fire danger extended southward into New York, Pennsylvania, New Jersey and Maryland. Maine, however, was the tinderbox.

Then things started to happen—so rapidly that it is difficult to piece the story together. During the week of October 20, Maine had 50 forest and brush fires burning at one time, all fanned by erratic winds. Indeed, one cannot discuss the situation with a State-of-Mainer without using the "big wind" as a point of reference. The "big wind" started on October 21 when a brisk breeze fanned the woodlands. It subsided the following day but, about midnight, it stepped up to cyclone velocity. This diminished—but remained dangerous through October 24 and 25. Thus the "big wind" is not a date—it is a four-day period.

Ten days before the "big wind," fires of unknown origin were burning, but under control on the Shapleigh Plains, an area of scrub oak and sweet fern in southwestern Maine. Three of these fires had burned together, covering an area of about 1,000 acres. Line patrol had ceased when the wind came up to whip the fire into action again—and send it racing eastward to Waterboro. Another fire, at Wakefield, New Hampshire, also was excited into action by the wind and raced across the state border and spread eastward and southward to join the Shapleigh fires.

Four days before the wind, several small fires were burning in the town of North Kennebunkport. These also were considered to be under control—that is, until the wind drove a fiery wall clear to the Atlantic Ocean, wiping out more than half of the beach section, between Biddeford Pool and Kennebunkport. At Richmond, the wind blew a tree on to a high tension line, starting a new fire area.

Bar Harbor's fire was one of local cause and effect. It is reported to have started at the town dump, a "safe" dumping ground at the edge of a swamp for the town's refuse. But there were no safe areas in October. Bar Harbor's swamp was no wetter than the swamps of the rest of Maine. Consequently, the dump fire crept through the swamp and nearby forest area, burning relatively slowly. Then the wind came. Racing and twisting, the fire reared up to reduce everything in its path to ashes. And in its fury it was no respecter of persons or property. The summer mansions of the rich, the Jackson Memorial Laboratory, together with its records of long researches in cancer studies and its 90,000 experimental mice went up in flames along with the lowly dump.

Ironically, James Calogero, Associated Press eyewitness of the burning of Bar Harbor, reported on October 24, "This famous international summer colony looks like a smoking dump today."

Flying over the area on November 13, the writer was able to confirm Mr. Calogero's description of Bar Harbor. By that time the flames had been beaten down and drenched with rain and snow, but thin clouds of smoke still hung over the ruins. As in other areas where the fire burned hottest—Saco, Biddeford, Kennebunkport, Waterboro and Brownfield—little capable of burning was left standing.

The story of the development of the other 50 or more fires differs only in detail. Conditions were practically identical—each became a problem greater than could be handled locally during, or because of, the big wind.

Many are the tales which will be told and retold in Maine whenever the fires of 1947 are discussed. There's the man who tried to save his home by using the contents of a cider barrel for an extinguisher. There's another, less fortunate native, who perished near his barn with the horse he returned to save. There will be stories of arsonists, since everyone was suspect. But the state insurance arson squad, on the job throughout the fire period, found few actual instances of sabotage.

Dramatic is the word for the evacuation of Bar Harbor. When the causeway road (the resort is on Mt. Desert Island, connected with the mainland only by a causeway) was blocked by flames, residents were rescued by Coast Guard patrol boats. Then, when the causeway road was reopened, a steady stream of sightseers crowded one side of the highway—coming to see the excitement—as the homeless sought shelter beneath which to weep out their grief.

Much credit must be given to Raymond E. Rendall, forest commissioner of Maine, and to Austin H. Wilkins, supervisor of forestry in the organized towns, for bringing order out of the chaotic conditions which prevailed when fire started to run wild in the state. To understand the reasons for the confusion and the part played by the ultimate organization, it is necessary to have a clear picture of the political organization in Maine.

In southern and coastal Maine there are 400 organized towns, each with its own local government. To the extent they are financially able, these towns provide their own fire-fighting organizations to protect 6,750,000 acres of forest land. The position of the Maine Forest Service as regards forestry and forest fire fighting activities of the towns is one solely of cooperation. This cooperation has developed over the years along several lines. There are today 20 fire towers in the organized towns, manned by the state. Throughout the counties are 15 forest wardens, responsible to the state organization. Further, the state now pays one-half the cost of extinguishing forest fires in the towns.

But the work of the 15 state wardens is limited to cooperation with town authorities and with town-appointed fire wardens. The state assists in training the town wardens, but has no authority over them, except as it may be granted by the towns in the case of an extreme emergency.

To the north, in the wildlands, the forestry organization stems from the state, with Commissioner Rendall in charge of all protection on 10 million acres of forest land.

When the big blow-up came during the week of October 20, Maine's governor already had proclaimed a ban on hunting and both he and the forest commissioner had issued warnings urging extreme care with fire in or near the woods. Some fires were burning, but for the most part these were under control by town organizations.

Then, when the winds came, fires leaped out of control, crossing town lines and recrossing them. They emerged from the woods to engulf communities, and suddenly everyone was calling for help at the same time. These calls were answered in the same frenzied manner in which they were issued. Persons of all degrees of fire-fighting experience and ability responded with equipment equally diverse. When the confusion was at its height, the job was turned over to the forest commissioner and his supervisor of organized towns.

Two days were required to bring order out of chaos, and then the fire control job was just hard deliberate work. But those two days will never be forgotten by the people of Maine.

(*Continued on page* 569)

REFUGEES FROM THE ICE AGE

By BLANCHE A. McKNIGHT

Isolated on the high wooded bluffs of the east bank of the Apalachicola River in the Florida panhandle, are two tree varieties which grow wild nowhere else in the world—the Florida yew and the torreya. Survivors of species that apparently originated in more northerly climes before the great ice cap swept down over the United States, the Florida yew (*Taxus floridana*) and the *Torreya taxifolia* are confined almost entirely within the boundaries of the Torreya State Park.

To explain the presence of these unique trees in Florida, botanists go back to the Pleistocene Age some 20,000 years ago. As the great ice flow slowly advanced from the north, many species of trees and plants seeded themselves and sprang up beyond the oncoming ice front. Thus small groups of alien trees became established in various parts of the South out of reach of the cold, and there they remain today. While many varieties reestablished themselves as the ice retreated, others like the torreya and the Florida yew remained where they had taken refuge.

These strange and stranded actors of the botanical world are closely related to the yew family and to each other. Each one is a distinct species, however. The range of the Florida yew is extremely limited. It is known to exist only in two small stands along the Apalachicola River in Gadsden County, Florida, while the torreya is scattered thinly over a 20-mile range in Gadsden, Liberty and Jackson counties in Florida and Decatur County in southwest Georgia.

The Florida yew looks like the common shrubbery yew of Canada and the northern United States. It is a low, bushy evergreen, usually 10 to 12 feet tall. The diameter of the trunk is seldom as much as a foot. Its leaves are needlelike, resembling those of the torreya, but shorter; its branches are bristly and its bark is reddish, resembling the eucalyptus and peels off in large scales. The fruit is a small, fleshy, red seed.

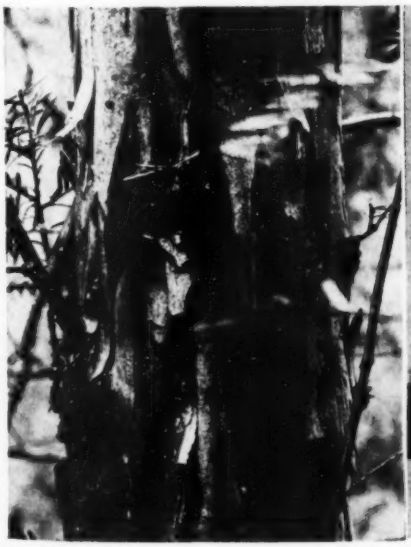
The torreya is larger than the Florida yew, growing often to a maximum height of 50 feet and a diameter of 10 to 12 inches. Its feathery, bright and dark green branches line up in a horizontal plane with flat stiff needles about an inch and a half long and an eighth of an inch wide. This tree presents a two-tone color effect, since the upper surface of the needles is dark, glossy green and the lower surface is lighter green. Coming upon a stand of these fine trees with their drooping branches one cannot fail to be impressed with their beauty.

The staminate flowers of the torreya which grow on the underside of the twigs, are small, green and inconspicuous. The seed which one would expect to be a cone, such as other conifers bear, is usually a surprise to observers, for it is not unlike a green plum or an olive about one and a half inches in length. This fruit is a smooth-shelled nut covered by firm fleshy pulp which hogs relish. When bruised or cut the seed pulp exudes a milky juice which becomes sticky as the air touches it and promptly dries like glue. As it ripens the pulp of the seed shrivels and turns to a dark grayish blue color. The shaded foliage of the torreya suggests

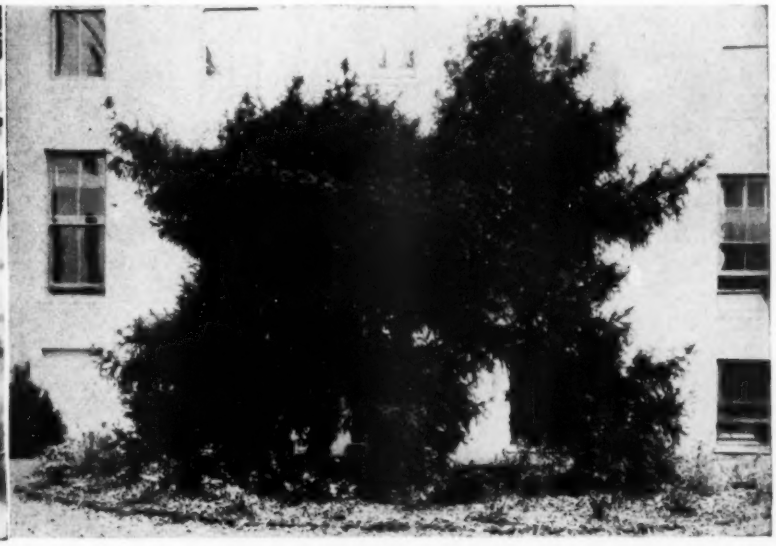
(*Turn to page* 566)

The bark of the Florida yew is easily identified

Devereux Butcher



This torreya, planted over 100 years ago by Hardy Croom, still stands on the grounds of the Florida State Capitol at Tallahassee



Christmas Tree Farming

There is both profit and satisfaction in growing Christmas Trees—if you know the answers. Here a successful tree farmer gives you a good start

By J. A. COPE

When a landowner in one year sells 40,000 Christmas trees at the roadside for a gross return of $20,000—that's big business. These trees, mind you, are not wildlings culled from pasture and swamp, but trees that have been planted in orderly rows for the specific purpose of yielding a crop of Christmas trees.

With good spacing and good pruning through the growing decade, it would be possible to harvest 1,000 trees to the acre; hence 40 acres of land would be required for the $20,000 crop. That is a gross return of $500 an acre, and if this is distributed over, say 15 years by which time the last of the crop will be harvested, the annual gross return amounts to a little over $30 an acre. This figure becomes all the more significant when it is remembered that a crop of Christmas trees can be grown on land that is submarginal for farming in the ordinary sense. In fact, it is more expensive in labor to bring through a satisfactory crop of Christmas trees on good farm land. Rank growth of weeds often hinders establishment and shades out lower branches, and drastic pruning is required at least biennially to keep the trees in conical shape.

Lest this picture seem too rosy, it should be stressed that the return cited was gross, not net. Risks, hazards and disasters can shrink the net return to meager proportions. Conceivably, too, this Christmas tree farming could be overdone. If all the abandoned farm land in the state of New York, for example, were set out to conifers, the whole nation would be supplied with Christmas trees in perpetuity. Practically, trees of the right kind and shape grown close to the centers of consumption easily win out over trees that come long distances by freight or truck.

Finally, it should be borne in mind that today's Christmas tree is tomorrow's pulp stick, and a sawlog the day after tomorrow. If when the plantation is Christmas tree size and no prospective sale in sight, it is not a total loss to allow it to continue developing into pulpwood or even timber. In fact, one school of thought suggests that the proper way to harvest Christmas trees is by making thinnings in plantations. The cost of establishment is thus paid for at an early age—and there is still a stand to yield valuable forest products in subsequent decades.

It all adds up to this. If you own

Scotch pine is gaining popularity in eastern markets. Fast growing, it must be properly pruned

The favorite white spruce grows slower than Norway spruce but is less susceptible to insect damage

Spruce and firs can be pruned any time of the year with satisfactory results. Use a hand pruner

Pruning a Scotch pine. This operation is done in June when the tree's candles start to lengthen

land that is lying idle or fallow, you should put it to work growing trees. And since conifers are best adapted for successful establishment on open land, you should plant conifers. With a possible Christmas tree market in mind, select trees that locally are in demand.

Naturally, Christmas tree farming can be expected to be most successful in areas outside the great coniferous belt of New England, northern New York, the upper peninsula of Michigan and farther west. Currently, the outstanding Christmas tree farms are found in Connecticut, New Jersey, southern New York, Pennsylvania, Ohio, Illinois, Indiana and southern Michigan. In Pennsylvania, where there is an almost complete absence of native conifers except hemlock, white pine and redcedar, Christmas tree farmers have organized into an association for the purpose of furthering efficient growing and marketing of their trees.

Within this extensive area east of the Mississippi River—and doubtless also on its more southern fringes—representatives of the genus spruce have been the standby for many years. The first Christmas tree is said to have been a fir, "Tannenbaum," but the representative of this genus in eastern United States (balsam fir), while fragrant and high ranking in its needle holding ability, is more exacting as to soil requirements, and growth rate during its first 10 years on most sites is far slower than that of spruce.

There seems little to choose between the two spruces commonly used in the Northeast. Norway spruce tends to be somewhat more bushy and will, in most sites, reach six feet in height in eight or nine

A pole pruner is used to shape a tall "turn up"

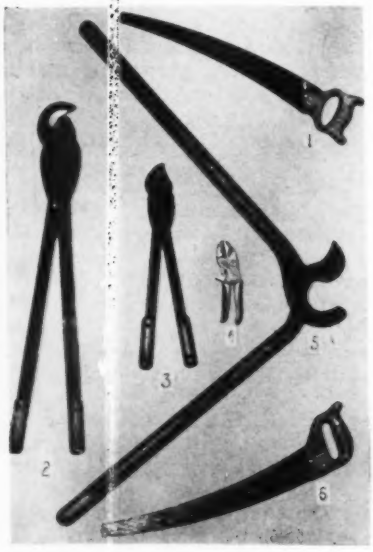
years, whereas the native white spruce would require nine or ten years. Offsetting the faster growth rate of the Norway spruce is its greater susceptibility to insect damage, especially from the white pine weevil and the spruce gall aphis.

Within the past 10 years, Scotch pine has forged rapidly to the front as one of the better varieties of Christmas trees. The consumer likes it because it holds its needles exceptionally well indoors and the bluish tinge to its foliage is preferred to the darker green of Norway spruce or balsam fir. The producer likes it because he can grow a six-foot tree in six years. In fact, Scotch pine, once established, grows so fast that a special pruning technique must be initiated by about the third year if wide spaces between branches are to be prevented.

Actual spacing of trees in the plantation is important. If Christmas trees are to be taken out as thinnings, a spacing of four by four feet would not be out of line. After half the trees are removed there would still be a substantial forest plantation left. For successive crops of Christmas trees on the same land—otherwise it is not Christmas tree farming—the spacing can well be five by five or six by six feet. This provides opportunity to develop larger trees for use by schools and churches. If vegetative methods of reproducing the crop are to be employed—that is, if

the same stump is to provide successive crops of trees—the wider spacing is essential.

Like any other crop, Christmas trees do best when tended during the decade or less that is required to bring them to harvesting size. Fire and thieves are ever present menaces to the coniferous plantation, especially when located near centers of population. So far the writer is aware, there is no insurance to cover these two possible losses, at least not at a premium rate that the grower could afford to pay. So he must insure the crop as best he may by grass-free firelines and vigilance.



Tools of the grower—above, Cornell tree killer—below, harvesting saws, large and small pruners, and snippers

Some growers actually hire watchers to patrol their plantations from early December to Christmas, as well as during periods of extensive drought.

Because Christmas trees are harvested at an early age there is little opportunity for tree diseases that affect older trees to become serious. It is a different story, however, when it comes to insects. Vigorous growing conifers in full sunlight are ideal pasturage for the larvae of weevils, sawflies and moths, as well as spittle bugs, aphids and red spiders.

Needles, buds and twigs are attacked and, if not controlled, these insects may reduce the potential harvest by half or in some instances as much as two-thirds. Here, again, vigilance is of the utmost importance. During the entire growing season, the Christmas tree plantation should be traversed thoroughly at least once a week and, if insect attacks show up, means taken to control the outbreak as speedily as possible. For defoliators like the sawfly larvae the trick is, of course, to poison their food. This is accomplished by means of arsenate of lead in a knapsack spray pump. If weeviling in Norway spruce or spruce gall aphis attack becomes serious, a protective application of DDT is well worth considering.

Within the Christmas tree farming belt already described, the native tree growth is predominantly hardwood, otherwise Christmas tree growing would not be so extensive or so profitable. Sooner or later the grower, if he uses his land for repeated crops of Christmas trees, will find the area invaded by hardwoods; and if nothing is done about them, they will actually take over the plantation. Popple, pin cherry and soft maple likely will be the first invaders, but white ash, sugar maple and the birches will not be far behind. The time and rate of invasion will depend on the proximity of the seed supply. If a mature stand of hardwoods is adjacent to the plantation, the invasion will start long before the first Christmas tree crop is ready to harvest.

It is worse than useless to chop down these invaders with machete or brush hook. Next year they will be right back, two or three to one. They must be taken out root and branch. Pulling and grubbing is one answer, but a very expensive one with labor $1 an hour. Fortunately, there are on the market today several chemicals that will effectively control these woody weeds. In the summer, ammates or arsenites in the knapsack spray pump can do an effective killing job if the leaf surface is thoroughly covered. But choose a relatively calm day and direct the spray carefully, because conifers as well as hardwoods can be killed. For that reason some growers prefer to control hardwoods in the late fall or early winter by cutting them off close to the ground with pruner or brush hook, and immediately painting the stumps with sodium arsenite. Where the hardwoods have become too large to be readily clipped with pruner or ax, effective results can be obtained by injecting the chemical into the sap stream using an ax and oil can, or a combination such as the Cornell tree killing tool.

The surest way the Christmas tree grower can meet the competition of wild stock shipped in from the conifer belt, is to put only pruned symmetrical trees on the market. People will pay the extra price for a superior product.

In the case of the spruces, firs and Douglasfir, the pruning can be done at any time of year with satisfactory results. The tool to use is a hand pruner, not hedge shears. The latter tool gives the tree a sheared appearance like some of those clipped specimens in cemeteries.

First, the leader is cut back to a length not greater than 10 or 12 inches above the first whorl. Then the leaders on the laterals are taken out at the whorl point so no stubs are left. In fact, the only stub showing in the whole tree is the leader. Usually, to give the tree a symmetrical and compact appearance, shipping out the leader on the laterals is necessary on only the two whorls immediately below the top. Eighty to 100 trees an hour can be pruned in this manner—up to the standard height of six or seven feet, that is. When larger trees are pruned, involving the use of pole pruners, more time is consumed. But the greatly increased price received justifies the added time.

It is better to prune spruce, but in the case of pines it is imperative. Otherwise, the annual height growth may be so great (30 inches) as to leave wide gaps between the successive whorls of branches. Also the time of pruning is limited. Pines do not develop buds between each successive year's whorl of lateral branches. So if pruning were done late in summer after terminal buds had been formed, the tree would die back to the next whorl. The new growth must be caught just as it is stretching early in the summer, and stopped by snipping at the decided

(*Turn to page* 569)

WOOD
Friend of Man

By DONALD CULROSS PEATTIE

Wood is man's best friend in the world. Most versatile of all living substances, it held him in his cradle, went to war as the gunstock in his hand, was the frame of the bed he came to rejoicing, the log upon his hearth when he was cold, and will make him his last long home. It was the murmuring tree above his childhood play, and the roof over the first house he called his own. It is the page he is reading at this moment; it is the forest where he seeks sanctuary from a stony world.

Living, a tree sweetens the air where it breathes; as it dances, it sings too. It lays the dust and tempers the wind. Yet even when it is felled, it but enters on a new kind of life. Sawn and seasoned and finished, it lays bare the hidden beauty of its heart, in figures and grains more lovely than the most premeditated design. It is stronger, now, than it was in the living tree, and may bear great strains and take many shapes.

Reach out and touch any object nearest you that is made of wood—the table top of bright maple, the chopping bowl of clean birch, a clothespin or washboard from the heart of the beech, a paneled wall of knotty pine, the lean strength of an ash wood garden rake, the apple wood of a saw handle, a basket of woven willow splits, or a tobacco pipe of briar, all its fantastic twist subdued and ordered to your cupped hand by the shaping tools. Pass your fingers sensitively upon this wood, to learn its texture, then your full palms upon the firmness of its flesh—wooden flesh of the once living tree. Somehow it seems—compared with metal or clay or stone—warm still, still living out its useful days.

And there is a use for every wood, and a wood for almost everything we require in our daily lives. Some 1,000 native species of trees grow in the United States. Indeed, Americans started out with the greatest forest heritage that ever fell to the lot of a lucky people. Our first export back to England from the Jamestown colony was lumber—mighty pines for masts, clapboards, tar, pitch, turpentine, black walnut. By the time George Washington had built Mount Vernon (a wooden house, like millions of Americans' homes) and planted around it now mighty elms and tuliptrees, our wood-wise pioneer ways were already 150 years old. Now 200 years later, in spite of some lamentable wastage of our wood resources, we are the possessors of the densest stands of softwoods, and the tallest and most beautiful conifers in the world.

So wood has gone into the very fiber of our nation. When British shot fell back from the live oak sides of the frigate *Constitution*, she got her name of "Old Ironsides." When the backwoods boys fought beside Robert E. Lee, right up to Appomattox, in their homespuns dyed with butternut, they became known as "Butternuts," and that tree became a synonym for tattered valor. The cabin where Lincoln was born was made of the logs of that grand old tree, the American white oak. The rails that Lincoln split were black walnut. Wood fired the racing steamboats on the Mississippi, and fed the first railroads; we spanned the treeless plains on ties cut out of the eastern forests. We rolled west on hickory, tough as a pioneer's heart, rims of hickory and spokes of oak, all the way to the Pacific. There new woods came to hand—redwoods and Douglasfir 300 feet high, tremendous sugar and ponderosa pines, gigantic western cedars, timbers such as man had never been before.

And every kind of tree has its own virtues. Some timbers are strong in the position of a beam—able to endure dead weight without the "fatigue" that others exhibit, and some are perfect in their capacity to absorb sudden shock, like the ash so carefully selected for baseball bats, or the persimmon of golf clubs. Or a wood may be chosen not because it is strong but because it is light. For airplane construction, nothing in the world equals our Sitka spruce, and logs of it are so carefully selected that it has been called "the jewel trade of the lumber business." Most cabinet woods are chosen because they shrink so little in seasoning. But others are seized on to take advantage of their shrinkage. Thus our ancestors taught us — and we have never improved on the method—to fit seasoned hickory dowels into chair seats of green sugar maple. When the maple shrinks it clasps the hickory leg in a grip that nothing can loosen.

When we build a complex object like a chest of drawers, a piano, a Pullman car, a farm wagon, a house, a ship, an airplane, we may use many kinds of wood inside and out, in one position or another, each in its one right and perfect place, from solid

The intrinsic worth of wood to mankind is summed up by a noted author when he observes that this most versatile of all living substances is used by man from the cradle to the grave

timbers to drawer lining, from ornamental mouldings to fiberboard, from plastics to the paper on the wall.

Even one and the same species of wood may have uses ranging from the trivial to the sublime and values from the cheapest to the costliest. Take the little box that holds berries in the market—it is made of deal. But when you camped beneath its fragrant boughs, you called it spruce. Once a year you call it the Christmas tree, and children pay it tree worship with their eyes. The newspaper publisher calls it pulp, and on its macerated fiber he flings at your door each morning the news of the world. The musician calls it belly of his violin. Stradivarius, greatest of all violin-makers, used to go up in the Alps to select perfect spruce wood for his instruments as carefully as a man selects a jewel. Then he took it back to Cremona, where the climate is ideal for seasoning the varnish of a violin. Now when the performer's bow (sweetened with rosin of the balsam fir) drops on the strings, the note thrums down through the bridge to the rich, soft belly of the spruce, and through the sound posts to the resonant back of figured maple wood. Thus have three kinds of trees united to give you the marvelous tone.

Or do you play the piano? The black keys are made of ebony and as your fingers have told you a thousand times, it is a wood exquisitely smooth to the touch. The color is not stain that might wear off but the natural solid hue of the heartwood of a tropical tree. The American persimmon, also a dark wood, belongs to the same family. You've noticed that on a well-worn piano the ivory of the white keys wears down till it looks like the teeth in an old horse's mouth. Yet the black keys outlast the life of the instrument.

Do you happen to have a pencil in your pocket? The wood that holds the graphite is probably eastern redcedar, the same whose dark pyramidal outline may be seen along the stone fence of any New England pasture. The birds love the berries and, perching on fences and telegraph wires, they void the seeds and so plant the tree all along the roadside. In spite of this, pencil cedar is, commercially speaking, growing rare, for it has been cut and cut for more than a century and sharpened away into shavings. Yet no other wood can quite take its place for pencils. It is soft but not too soft and can be sharpened with equal ease in all directions. That's not true of all woods; birch is too hard; spruce is too splitty; only cedar is perfect.

The shingles on your house are probably made of another kind of cedar, western redcedar. If you remember them when they were fresh from the lumberyard, you recall their coarse texture and ruddy color, and the strong, cleanly smell of the unstained wood. Those shingles came from the same kind of tree that the Northwest Indians used for their giant canoes, single logs hollowed out by fire to hold 40 people. They used them, too, for their totem poles, for the same reason you use them for shingles: the wood endures so well the sun and rain. And the great height of the tree made it suitable for totems. For western redcedar is one of the most gigantic growths on the planet, almost a rival to redwoods, a king of the forest yesterday—today a roof above your head.

But of all American woods none has been more significant than white pine. I take up a match made of it to light my pipe as I write; it burns readily but not with a flare-up like pitch pine, and when you blow it out it goes out, not lingering as a dangerous coal like hickory. What I then toss away is the fragment of an empire. When the Pilgrims landed, forests of white pine came marching down to meet them. Within 40 years they were exporting their white pine all the way to Madagascar, and selling it on the densely forested shores of Africa. For in the tropics where, for all the beauty of tropical cabinet woods, trees tend to be heavy, there is nowhere a wood like white pine, that is so light and grows so tall. A single tree made a mast tall as a ship could carry, yet so light it was never top heavy. When the English navy sailed to some of its greatest victories in the Eighteenth Century, it spread its sails on masts and yards of New England white pine. No wonder that the tallest pines on the Crown lands of America were blazed with "the king's broad arrow," to warn the colonists these were reserved for the Royal Navy. It was an offense punishable with fines and floggings to cut such a tree. You can imagine how much attention the New England patriots paid to *that!*

White pine built New England's loveliest colonial mansions and churches. For it is a favorite of the carpenter — it works so smoothly under the plane, and shrinks and swells, when properly seasoned, so little. It is still the ideal wood for window sashes and doors, which must fit precisely, yet move with light ease under the hand. So it is built right into our history. Fleets of ships were launched to export it, railroads were bent to great stands of it, mushroom cities rose in its clearings, and it founded great fortunes. Under its boughs evolved the American lumberjack and American lumber methods, each the most ingenious and swift working in the world.

For qualities of toughness the opposite of white pine's, our pioneers turned to hickory. Indeed, in its shaggy bark and its unbending straightness, it looks like the men who fought at King's Mountain and Tippecanoe and Fallen Timbers. Slow-growing, there is none too much of it left to us, and every sound old hickory is precious. For not steel itself is as shock-resistant. Strike a rock with your ax, if you want to prove this; were the hickory shaft weaker than the blade, it would splinter, but it is the steel that is blunted, the rock which chipped. So the proud Norwegian ski champion wants to know that when he takes that flying leap, his life is insured by good American hickory under his feet. As a fuel, a cord of hickory is almost the equal in thermal units of a ton of anthracite coal, and epicures will have no smoked hams but those cured over green hickory coals; so hot they glow, so long they last, so subtle their aroma.

Every American soldier, from Washington's armies to Eisenhower's, has known walnut like the palm of his hand, and knows it with his palm. For almost all army rifles use our native black walnut for the stock. Under hard usage, it does not splinter, yet it is classed as medium light among woods. Instead of growing rougher with handling, it becomes smoother. Well-seasoned walnut will stay put—doesn't unsettle the metal fittings of the gun. In their increasing scramble for walnut, hardwood buyers now make a farm-to-farm quest for it. For a little ready cash they persuade the farmer to part with his lifelong friend and shade tree. Once the log is at the mill it is carefully watched at the saws for sign of figured grain. If any turns up, the saws are stopped, and the flitch of wood moved up to the veneer knives. These will pare off sheets one thirty-second of an inch thick. It is said that one single black walnut log, a log showing a uniquely beautiful figure, sold in the veneer trade for $20,000 wholesale.

That lucky lumberman picked up a pocketful of jewels. But all wood has its gemlike facets, depending on how it is cut, and from what part of the tree it came. Most woods can-

not grow without making a pattern of some sort. To learn how wood grows, look at your hardwood floors (most probably oak) and you will see that though no two boards are alike, they fall into three general patterns. The simplest is straight-grained; it has a background of golden fibers which braid around the ray cells that are visible as darker broken lines or dots and dashes. Such a board has been cut from near the surface of the log. Then you may notice floor boards that seem figured with advancing ripples. Those ripples are annual growth layers—growth in diameter. This board is cut nearer the heart of the tree. The third type of board is identified by a figure that the lumberman calls "flake"—insertions of oblong or scimitar-shaped pale wood at right angles to the grain. These flakes are wood rays which in the living tree carried food from the bark toward the center of the tree. The lumberman calls such a board "quarter-sawed." A full-breadth quarter-sawed plank would be one which had one edge at the heart of the tree, the other at the bark. The narrow boards in your floor, of course, are merely longitudinal strips of quarter-sawed plank, not full breadth.

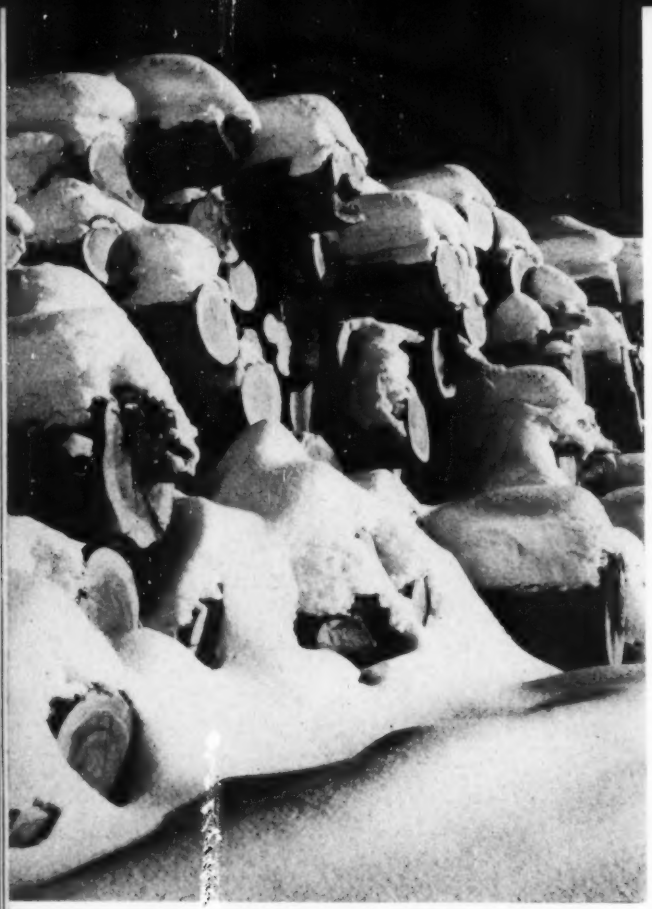
Fancy grain comes about as one of a hundred possible variations from these simple growths exemplified in your floor boards. Everybody has admired the "landscape figure" in the yellow pine paneling used in summer cottages, an effect due to contrast in color between the dark summer wood and the pale spring wood. But tropical trees like Philippine "mahogany" know no winter; they never stop growing, so they have less marked annual growth rings. But they may simulate growth rings because of different types of wood formed during wet and dry seasons; this gives a ribbonlike "stipe" that is sariking indeed. Near the crotch of a tree, where a branch came out, the fibers flare; so you may get the lovely "feather crotch" effect of the best Honduras mahogany veneer.

Branches coming out through the vertical wood are the cause of knots. If they are dead knots (from branches dead when the lumber was cut)

(*Turn to page* 572)

Americans started out with the greatest forest heritage that ever fell to the lot of a lucky people. Here is a sample—remnants of original stand of white pine, hemlock in Pennsylvania

Penna. Dept. of Forests and Waters



WINTER LOGGING

Long before Christmas the northern woods, white under a blanket of snow, will resound to the song of the lumberjack as winter logging gets under way. Axes will bite into snow-caked bark, saws will hum in the clear, frosted air, churning tractors will skid huge logs along icy roads and logging trains will heave and puff over slippery rails.

It's a rigorous job for rugged men and stout machinery, though not so rigorous as it used to be. The modern winter logging camp is a far cry from the colorful old bunkhouses of the early loggers. Camp 58 in the Nez Perce National Forest of Idaho, shown at right, is typical with electric lights, shower baths, steam heat, radios and movies. Work in the woods has changed, too, with mechanization—but the lumberjack still knows what it is to turn out on a frosty morning, with icy winds whistling through the treetops, and head into the timber with ax or saw. Yet he would not swap jobs with a bank president—and because his kind still exists, the logs to meet the nation's lumber needs roll out of the winter woods.

Even Babe, Paul Bunyan's Blue Ox, would have had plenty of respect for this powerful logging arch shown snaking two-ton logs down a skidding road

Caterpillar Tractor Co.

Caterpillar Tractor Co

A swing boom jammer deep in the forests of Idaho swings snow-caked logs aboard flat cars on a blustry winter morning. The jammer loads up to 25 cars a day

Sky Watchers of the Hinterlands

By WILLIAM S. BROWN

Bombs were still crashing on Pearl Harbor that bleak day of December 7, 1941, as California forest rangers plowed through snow to inspect the state's chain of aircraft warning posts. The inspection was to precede a statewide "dress rehearsal" for California's corps of plane spotters on December 12. Army officers, worried by the tenseness of the Far Eastern situation, hoped to gear the observation units to as near peak efficiency as peacetime conditions would permit. That dress rehearsal was never held.

Not that the Army officers in California were caught unprepared. They weren't. As early as 1938 they had recognized the importance of forest fire lookouts as aircraft warning posts. Aided by the U. S. Forest Service and other federal state and country organizations, they had forged and tested an interlocking chain of lookout posts. A master mobilization plan, relying chiefly on seasoned forest rangers, had been prepared.

Tests made in 1939 were unsatisfactory. Using makeshift equipment, observers required an average five-and-a-half minutes to report planes to headquarters.

"Too slow," the Army had said. The tests were repeated in 1940 and the time was clipped in half.

"Improved, but still not good enough," the Army perfectionists said and called in utility firm executives and communication experts.

"Look here," the Army told the utility executives, "the Far Eastern situation is critical. It may explode any day. And in the event of war, planes launched from hostile aircraft carriers just beyond the Golden Gate Bridge could make a shambles of this state's industrial and shipping centers. We've got to do something about it."

The utility executives had great faith in the fleet but the Army strategists made them uneasy. So they placed their know-how and their equipment at the disposal of the Army.

The tests continued. By 1941 the calls from various posts in the state were arriving at headquarters in a matter of seconds. It was believed that the December 12 tests would smash all previous records for speed and efficiency. Careful preparations were being made and distant lookouts had been stocked with provisions and prepared for winter occupancy.

Then it happened—the thing the Army had feared. The fleet was taking an awful shellacking, no one knew exactly how awful. The Japs were on the prowl.

California's Aircraft Warning Service snapped into action. There was no excitement, no confusion. The Army command functioned smoothly. And Californians learned that day that you can't stampede a forest ranger.

"This is war! Man your lookout post!" an excited civilian shrilled into the ear of one ranger when he answered his phone's imperious summons. "Whoah, take it easy," the ranger replied good humoredly. "Mind if I put my pants on first?"

The rangers knew what to do and they set about their task with the same methodical efficiency that had characterized their preparations for hundreds of forest fires. There was no need to remind them of the importance of their task as they leaned into the wind and trudged towards distant outposts. They knew that any enemy attack on California's key seaports or great irrigation reservoirs and hydroelectric installations back in the hinterlands, the hub of the state's industrial power, would strive to achieve the element of surprise. The rangers knew they were powerless to stop an attack but they could and would thwart the surprise element. That was their job and while the Pearl Harbor blow had wrecked their personal plans for a pleasant Christmas, they were glad they were pressing into that unprepossessing wilderness to man the towers. Unlike most Americans sitting helpless and baffled by their radios waiting for the latest crumbs of information, they had something to do. And the thought gave them an intense, almost fierce inner satisfaction.

All night long tiny lights blinked on in lonely cabins and lookouts along the backdrop of the aircraft warning net as the rangers moved into position. When men were not available for tower duty their women took their places. In one instance a rangers' wife, whose leg was broken, resolved that her husband's tower should not provide a gap in the lookout link. Strapping a pillow and several bed slats around her injured leg, she gritted her teeth and hoisted herself up a 30-foot tower and grimly reported to headquarters that her observation post was open for business.

By midnight of December 7 many of the posts were manned. By sundown the following day most of the remote posts in the wild lands were in operation and within a week it would have been like threading a needle for one of Nippon's scout craft to have slipped between any two lookouts up and down California's 1,200 miles of coastline. The Aircraft Warning Service headquarters messaged a hearty "Well done, rangers!"

December 7 marked the auspicious start of the Aircraft Warning Service in California, a little known unit that made few headlines but which served its country long and well. Initially, according to master plan, the bulk of the observation work was borne by the experienced foresters and forest guards — all sturdy outdoor men whose loyalty and devotion to duty is legend. Then, gradually, like shock troops after the first impact of action, these veterans were withdrawn and shifted to more pressing fronts. Their places were taken by fledgling observers drawn from civilian ranks.

"Man your lookouts!" was the order flashed in California on December 7, 1941—and with it went into action the Aircraft Warning Service built around the state's forest fire lookout system. Here, at last, is the little known story of one of the war's dramatic episodes

U. S. Forest Service

Two women observers were injured in this trailer house when it was ripped from its moorings by a fierce gale in the Mojave Desert. The trailer was a complete wreck

How they faced up to lonely existences in implacable wilderness areas adds to the luster of California's mighty overall wartime contributions.

There was no dearth of volunteers. Officers of one national forest were nonplussed when one elderly man applied for an observer's job. Walking smartly into headquarters he satisfied the officer in charge with his alert replies to the questions asked. Given the usual papers to fill out he abruptly stopped writing and asked, "Is it absolutely necessary for me to give my age?" Told that it was, the man suddenly wilted and slowly gathering up his papers said quietly, "I was afraid of that. You see, I'm past ninety."

"I'm sorry," the officer said softly as the old man walked out the door.

Requirements for service were not too exacting, however. They included normal eyesight and hearing, a fair degree of bodily health, at least average intelligence and unquestionable loyalty to the United States. All sorts of people made up the observer ranks including married couples, discharged GI's, often wtih artificial arms or legs, artists, writers, retired farmers, young mothers and many others from almost every age bracket and walk of life.

Twenty-four-year-old Mary Edeal and her sister, Molly Morris, each with a soldier husband on the overseas battlefront, served for months on the Canebrake post on the Sequoia National Forest. The fact that each of the young wives had an infant baby to look after seemed in no way to affect their efficient operation of the station. Down in the south end of the state, Richard Wormser and his wife, Ann, both nationally known writers, occupied a post. Mrs. Lillian B. Ross, author of two recent best sellers, in company with her artist husband, manned a rugged Monterey mountain post. Three shell-shocked or wounded veterans and their wives did a tour of duty on the Los Padres Forest.

In one case a northern California post was manned by two portly twin brothers, 55 years old. Heavily built, they were as alike as two peas and could be told apart by no one except a younger sister who cooked and kept house for them. The trio was inseparable and when the brothers moved to the lookout station the sister moved with them to manage the team. In family conversation, the brothers were known merely as "Number 1" and "Number 2"; it simplified matters. The sister, a college graduate, was the direct opposite of her ponderous, wide-girthed brothers—and was a bundle of energy — slender, supple and quick-moving.

This post was well handled and gave supervisory officers no concern until the camouflage painting problem came up. The twin brothers, albeit good sky watchers, were too stout for climbing and outside help was not available. The gritty little sister would not have it said that the Clark family could not deliver the goods and no amount of argument could deter her from painting every square inch of exposed surface of the tower in record time. The off-duty brother acted as helper and safety engineer — from the ground. Her brisk commands from on high, "Number 1, tighten up the slack on that rope," or "Number 2, send up more paint," will be long remembered by visiting officers who saw her in action.

Often two women — sometimes mother and daughter — occupied a post. In early 1943, including telephone operators at message centers, there were 29 women on duty of a total of 71 employees in Aircraft Warning Service work on the Cleveland National Forest. On the Los Padres forest, at the same time, 51 of the 91 workers were women and girls. Forty-two of 65 watchers on the Angeles forest were women. The San Bernardino forest, with a total of 95 employees, counted 46 women.

Two women observers were assigned to duty at a San Bernardino forest post on the eastern edge of the Mojave Desert. Both were keen, efficient observers but the eerie loneliness combined with the never ending howl of the wind so preyed on the mind of one that she came down with a case of "cabin fever" and was scheduled to be relieved from duty.

One clear moonlight night the two women noted a Flying Fortress approaching at low altitude. The plane was obviously in trouble. As they flashed the message to headquarters the two women were horrified to see the entire tail assembly drop out of the bomber, evidently aimed directly at the trailer house by which they were standing. A harder gust of wind carried the wreckage over a nearby cliff but before it hit the ground the big ship, lights still burning, crashed to earth 200 yards from the observers. Nine crew members perished.

The crash had a salutory effect on the mind of the disgruntled observer scheduled for relief. Her "cabin fever" was immediately cured and she became a crack observer.

Former GI's who served long, dismal months on lonely foreign outposts can sympathize with the acute cases of melancholia and loneliness that sometimes developed on the isolated outposts. One extreme case occurred on lonely Stanislaus Peak. For some time one of the observers had noticed that his companion was acting strangely and reported the detail to headquarters. No relief was immediately available and the erratic member of the team continued on duty.

One day the observer, relieving his

peculiar-acting partner, noticed him holding his hands before his eyes and talking to himself.

"Now, don't that just beat hell," he muttered. "I told her not to do that."

"What are you doing?" his companion asked.

"Reading this letter from my wife," was the reply. His hands were quite empty. Moreover, no mail had come to the station for weeks.

A short time later the sufferer from cabin fever went through the motions of preparing a fried chicken dinner—with the frying pan empty. Before relief arrived he surprised his partner by reporting one day that a herd of camels was coming up the mountainside.

He was relieved and after a few days in civilization was quite normal again.

To strengthen the backstop of the Aircraft Warning Service net, the Army in the fall of 1942 asked the Forest Service to establish and operate 60-odd posts on or along the Mojave Desert. The sites selected by the Army were either the low-lying buttes peculiar to the region or the flat desert floor itself. Most of the observers lived in rather elaborate trailer houses, at the outset equipped with special canopies of heavy canvas overhead to help break the intense heat. High desert gales soon whipped this canvas covering to shreds and recourse was had to palm frond and yucca stalk thatching. These materials also vanished and the problem was finally solved by the use of heavy tulle mats woven by native Indians.

The trailer domicile on the Canebrake post in the Sequoia forest was once swept from its summit, rolling over four times. Neither of the two men on duty was injured. Miss Ruth Harris and Mrs. Helen Fraser, observers on a desert post near Palm Springs, were somewhat less fortunate. On an April night in 1943, a gale of cyclonic proportions shook their anchored trailer house like an aspen tree. The following day, a stronger blast struck and the trailer was torn from its moorings, executed several somersaults, and plunged into a canyon. Dazed and shaken, the women crawled out of the wreckage, both suffering from bruises and shock and Mrs. Fraser from broken ribs. Their escape was little short of miraculous as the trailer was a complete wreck. Both women were back on duty within a few days.

Narrow escapes from lightning were common on the lookout front. A bolt neatly cut one observer's trailer in half on one occasion without injuring him. But Mr. and Mrs. V. W. Larrick, a middle-age couple manning the Deiserta post, had a close call with another kind of lightning—incendiary bombs.

The Mojave Desert in wartime was a great national training center for all types of planes. Some of the observation posts, which were later abandoned, were dangerously close to the target areas.

One night in 1942, Observer Larrick was taking his turn on watch duty when he spotted a large formation of bombers circling his station. A blinding flash amid the rocks and brush nearby was the first indication that a bomb had been dropped—by accident. Other explosions followed as dust and flying stones enveloped the camp site.

Rushing through their radio report, the couple, fully believing they were under enemy bombardment, got into their car to withdraw. By this time the surrounding terrain was alive with bursting bombs.

Jumping out of their car, they made a dash for a rocky butte, where they concluded they would be relatively safe, and hugged the ground until a total of 24 bombs had burst within five acres of their camp. The fact that the bombs were of the incendiary variety rather than shrapnel accounted for the fact that the couple escaped injury.

"It was not a pleasant experience," Mrs. Larrick commented somewhat unnecessarily, in describing the accidental bombardment.

Man is a gregarious animal and the glamor of an existence on a high mountain peak or on the flat floor of a limitless desert under pounding heat soon palled on the average individual serving as a lonely sky watcher. It is a tribute to the persistency and stubbornness of average Americans that they generally hold on once they get a toehold—a fact that was duly noted by at least one Prussian general in the recent war.

(*Turn to page* 571)

Snowbound on blizzardy Leak Spring Lookout, Mr. and Mrs. Web Anderson moved about their post through snow tunnels, were isolated on the 7,640-foot peak for an entire winter

TOO LONG UNNOTICED—

KENTUCKY'S FORESTS

By ED. R. LINN

While it is not wholly true that Kentucky forests are unnoticed, there is enough truth in the statement to cause Kentuckians, as well as many other people in the United States, to wonder why an empire of almost 12 million acres of growing trees has to a large extent escaped the notice and the attention it justly deserves.

There seems to be something in the old adage, "A squeaky wheel gets the most grease." Everyone in the country old enough to listen to the radio or read the newspapers knows about the Kentucky Derby. The mention of bluegress immediately brings a vision of broad acres of pasture with white wooden fences, frisky colts, retired Derby winners and, of course, Kentucky. Mammoth Cave is a national monument forever associated with the state. "My Old Kentucky Home," Stephen Foster's immortal music, brings nostalgic memories to all who are past the jazz and the jitterbug age. Bourbon whiskey, beautiful women, and colonels originate in Kentucky and they receive the notice justly due to them. In short, publicity pays. Yet prosaic things like coal and water power play important and noticed roles in Kentucky. And all these "squeaky wheels" of notable activities would not turn without the necessary and vital Kentucky woodlands.

Kentucky forests supply ties for the railroads which carry people to the Derby. Great or small, most Kentucky homes have some Kentucky wood in their construction. The dwellers in these homes sit on chairs, eat off of tables, sleep in beds and walk on floors made of wood from Kentucky hardwood forests. Future Derby winners gambol in pastures fenced with wood and watered by streams from the forest clad hills. Bourbon whiskey barrel staves of Kentucky white oak play a necessary role in putting the "corn in the colonels." The coal mines of the state, an important industry, have used and must continue to use Kentucky wood for mine props, timbers, ties, and other construction. Kentucky's water power, agriculture, cities and towns need the forest clad hills and mountains to keep the streams from becoming ravaging, destructive torrents; soil-carrving monsters that destroy fields and homes.

Of course Kentucky's forests are noticed by one group of people. Those who work in the woods and

Second growth timber in Harlan County — part of Kentucky's 12 million acres of trees

Kentucky Division of Forestry

with the lumber and other products cut from the forests, numbering some 40,000, are well aware of their importance. The livelihood of these workers which adds up to over $40,000,000 of value annually contributes materially to the well-being of the state as a whole. Some 1,700 sawmills and probably a greater number of wood-working plants give employment to these thousands of Kentuckians.

What is being done to and for these forests should be of concern to many other people beyond the 40,000 forest products industry workers and their immediate families. It is to be hoped that concern for the forests is growing among people in all walks of life. It is not inspiring to see square mile after square mile of fire-scarred hillsides with gaunt, charred bodies of trees, sticking their broken limbs out in silent warning. They seem to say, "If you continue to do this to my kind all of you people who live in and love Kentucky will suffer." Flash floods, occurring in some areas, are preliminary warnings that the forests should be noticed.

It is encouraging, however, to travel today through the Cumberland National Forest, an area which only a few years ago was a testimonial to human destructiveness and lack of care. The Kentucky state forests now are living monuments of tree growth, too; examples for all to emulate in the management of forests. Some timberland owners have noticed and continue to notice their forests and, as a result, these areas show what can and should be done on the almost 12 million acres of forest land within the state.

Kentucky's forest resources make an impressive picture. Impressive because of their size and because of the important but relatively unnoticed part they play in the economy of a beautiful state, they are capable of doing much more for the state if noticed a little more and treated a little more kindly.

The total area of Kentucky is 25,852,800 acres. Some 183,000 of this total is under water, leaving a land area of 25,669,760 acres. Approximately 46 percent, or 11,857,101 acres are forest land. About 14 million acres, or 54 percent of the land, is taken up with farms, cities, and public right-of-ways for roads and railroads.

Over in southeastern Kentucky, Big Black Mountain attains an elevation of 4,450 feet, the highest point in the state. From there the mountains stretch out to the north and west, acquire broad valleys, and decline into hills and rolling country. A series of ridges and plateaus comes up from Tennessee not far from the southeast corner of Kentucky (making up a considerable part of the Cumberland National Forest), and running in a general northeasterly direction, diverts a small section of Kentucky into the Tennessee River drainage. This water, originating in Kentucky, travels south across Tennessee, through northern Alabama, again crosses Tennessee, then flows through the state of its origin and joins the Ohio River at Paducah. A small part of the state west of the Cumberland National Forest drains south into the Cumberland River, which travels around in Tennessee and back north through Kentucky, roughly paralleling the Tennessee River, and empties into the Ohio River only a few miles up river from Paducah. The remainder of Kentucky land slopes northerly toward the Ohio River, except for a small area in the extreme west, which drains into the Mississippi.

U. S. Forest Service

Typically Kentucky is the woodland bordered Cumberland River

There is no more beautiful countryside anywhere than the famed bluegrass region around Lexington and Winchester. Rivers and creeks in the eastern mountains are winding and lovely. Kentucky is a beautiful state, wherever one travels in it, if one will overlook the man-made scars inflicted on its forests.

Today, wildlife and game receive more attention than do those 12 million acres of forest land, because more money is appropriated for their conservation and development by the state assembly. It seems rather odd to provide money for the care and conservation of wildlife while giving meager or very little notice to its principal habitat. Particularly is it

Mention Kentucky and most people think of horses and bourbon whiskey—but the Bluegrass State has another if less frequently noted asset, namely, its empire of trees

vital to protect fish and wild animals from the ravages of fire.

Twelve million acres of forest land is a lot of land; if it were divided evenly among the people of Kentucky each man, woman and child would have about four acres. These forests are the basis of a $40,000,000 (yearly) industry which could be upped at least a half more, if the forests were better protected and better managed. The expenditure of a couple of cents upon each acre, plus two cents more from Uncle Sam, which he is willing to put in for fire protection to match Kentucky money, would help to stabilize a very important industry, and eventually to increase it.

These 12 million acres of Kentucky forests, which once were the equal of any forests in the East, are today uneven-aged second growth and cutover barrens. True, many thousands of acres of oak, beech, maple, and yellow poplar (tuliptree) stands contain residual old growth. Some of these stands occur upon large tracts owned by companies that have held the land for many years. Other tracts of practically untouched forest lie in rough mountainous country, where up to now it has been considered unprofitable to log. Anyone fortunate enough to travel through these wild, untouched woodlands easily imagines he sees buckskin clad hunters with long rifles gliding from tree to tree. Such larger holdings of old-growth forests occur in the eastern mountainous section, where the counties show high percentages of forest land. In the less rugged areas of central and western Kentucky practically all the forest has been cutover, including the bottomland hardwood type along the streams.

The forest land can be summarized by types, as follows: oak, beech, birch, maple, yellow poplar, 9.64 million acres; conifer and hardwoods, 1.40 million acres; redcedar and hardwoods, .57 million acres; bottomland hardwoods, .25 million acres; for a total of 11.86 million acres.

The oak, beech, birch, maple, and yellow poplar type, lying in the mountains and hill sections, presents every condition from badly cutover and burned-over, to practically untouched old-growth. The coal mining industry has drawn on portions of this area for many years, for mine props, timber, and ties. This use, even more than lumbering, has converted many thousands of acres into pole-sized timber, or into stands of even smaller size.

The conifer and hardwoods type and the redcedar and hardwoods type, containing together approximately two million acres, are practically all second-growth. Where fire protection exists in this type, as in other types and on the national and state forests, the second-growth forest is doing well. The bottomland hardwoods type is cutover and in all stages of regrowth, from second and third cuttings, and in places from logging within the last few years.

Kentucky has 120 counties and even the richest agricultural units, as well as those most thickly populated and urbanized counties have forests. The number of acres of forest land per county ranges from a low of 4,013 acres in the bluegrass country to a high of 431 thousand acres in the eastern mountainous region. Jefferson County, containing Louisville, Kentucky's largest city, has 16 percent of its area, or about 40,000 acres, in forest land. It is therefore impossible for any Kentuckian to get very far away from the forest whether he lives in a city, in a rich agricultural section, or in the mountains. In some counties where the forest acreage adds up to 70 percent or more of the county area, their residents are literally surrounded by forests at all times.

The latest estimate of Kentucky sawtimber, made early in 1945 (U. S. Forest Service and American Forestry Association collaborating), amounts to 12,392,000,000 board feet of standing sawtimber. Of this total, 10,781,000,000 board feet are hardwoods, and 1,671,000,000 board feet are softwoods. Most of this timber, something over 11,000,000,000 feet, is growing on sawtimber areas where logging is commercially feasible. Yet 1,200,000,000 feet of sawtimber is scattered around on lands classed as other than sawtimber areas. This estimate of sawtimber takes in all trees 10 inches and larger in diameter at breast height. Growing with these sawtimber trees, there is a huge volume of younger trees, pole timber, on which the volume is estimated in cubic feet.

Altogether, Kentucky sawtimber and pole timber are estimated at 6,826,000,000 cubic feet. Only 850,000,000 cubic feet of this volume are softwoods, while 5,976,000,000 cubic feet are hardwoods. A division of the total cubic feet into sawtimber and pole timber reveals that 45 percent, or 3,004,000,000 cubic feet, is in sawtimber-size trees and 55 percent, or 3,822,000,000 cubic feet, is in pole-timber-size trees. This considerable volume of wood in the pole-timber-size trees is encouraging, for the well-being of the future Kentucky forests, if one is an optimist and believes that more notice will be given to the forests. It is a nice reserve of young timber, a better reserve than is owned by some of the neighboring states with comparable forest types and comparable conditions.

The estimated current annual growth of Kentucky's sawtimber is around 638 million board feet. Expressed in cubic feet and taking in both sawtimber and pole timber, there is a current annual growth of 474 million cubic feet. Some calculations with the total stands and the current annual growth indicate that the sawtimber could be considered as growing at the rate of slightly more than five percent each year and all the timber in cubic feet growth is growing at a yearly rate of almost seven percent.

These percentages look good, but when it is to be remembered that more wood is being cut annually than is grown, and that the basic volume, or growing stock, is decreasing annually, the percentages lose some of their appeal. A good growth rate and a declining volume of growing stock cry aloud in unison for more fire protection and better management. It is inevitable that the annual cut will decrease over the years under the present system of operation.

At the time the timber estimate was made, the beginning of 1945, the State Division of Forestry was carrying on fire control in 22 counties out of a total of 120 counties, yet all the counties have forest areas. Although there was a five-county fire control unit in the west central part of the state, most of the fire control work was in the east. There were about 1,700,000 acres in the state fire control areas, leaving more than eleven million acres without organized fire control. Even this total acreage under organized fire protection indicates a gain over the last decade, as the total area under organized fire control in 1935 amounted to only about 800 thousand acres.

In 1935, the Division of Forestry had four full-time employees, four seasonal employees, and a lot of help from the Civilian Conservation Corps for fire fighting and other forestry work. In 1945, there were 20 full-time employees in the division, 104 seasonal employees, and an inadequate number of part-time and emergency employees, the latter condition existing both because of lack of funds

Turn to page 575)

managing your WOODLANDS

A page dedicated to the management of woodlands, large and small — practical suggestions in procedure and technique and in the solution of problems on the ground.

What is your problem? American Forests will assist you in finding an answer. Address queries to The Woodlands Editor.

LIABILITY OR ASSET—YOUR CHOICE

Here are the rules for avoiding woodland income—and what happened to a Missouri farmer when he ignored them

THE Indiana Division of Forestry in a recent letter to state woodland owners draws attention to good and poor woodland practices in the following manner:

"Money, they say, 'is the root of all evil.' Of course you don't want to have anything to do with evil. With lumber prices as they are, if you own a good woodland you are in a very dangerous position, because it is almost impossible to avoid making money. However, there are a few practices which are absolutely guaranteed to reduce your profits to the vanishing point, and for the good of your soul we believe it our duty to pass some suggestions on to you.

"(1) Don't give your woods any protection from fire. If you can manage to have a good fire every three or four years, this one item alone will assure you a non-profit woodland—in fact a non-existent woodland.

"(2) Let your likestock graze in the woods. This has an additional advantage, for not only do you ruin your woods, but it greatly reduces the profit from the livestock as well.

"(3) Ignore all signs of insects and disease. They destroy even more timber than fire. Just leave them alone, and they will relieve you on the double-quick of any embarrassment over excess profits.

"(4) Rob the cradle. Cut all the young stock. The big money comes in the over-ten-inch stuff, so if you cut 'em young, you are making sure of losing money. Middle-age spread, in trees, is mighty profitable. Better yet, just whack them all down. Then you won't have *any* future profits to worry about, and maybe you can start a dandy chain of soil erosion, water destruction and drought that will put a permanent leak in your pocketbook, and the pockets of a few thousand innocent bystanders as well.

"(5) Let the weed trees choke out the superior stock. Leave all overmature, over-developed and decadent trees in place to hog the sunlight, moisture and soil nourishment.

"(6) If, in an absent-minded moment, you should plant some trees (perish the thought!) just plant anything, anytime, anywhere, without respect to soil, site or season. On second thought, maybe you'd better just leave that planting business alone. Sometimes, in spite of everything you can do, trees grow, and then you have the whole business to worry about all over again.

"(7) And THIS ABOVE ALL. (And never say we didn't warn you.) *Don't* let any of those district, extension, or farm foresters come barging in and trying to tell you how to improve your woodland. If you let one of those fellers on the premises, sure as you're livin' he's apt to make some suggestions that sooner or later will make you money."

Now that was good advice, if you want to avoid profits, but over in Cape Girardeau County in Missouri,

(*Turn to page* 570)

Frank Milde (left), owner of a 19-acre woodlot that has provided an income of $10,000 over a 26-year period, is shown examining his trees with Richard Holekamp, a Missouri farm forester

Rex Gary Schmidt

...and DRENCH MEANS PENETRATION *where you need it most.* Tried and proven under actual forest fire conditions, DRENCH is the wetting agent that will give you complete penetration and saturation of dangerous leaf mold, ground duff and char.

DRENCH gives faster extinguishment of the fire line and eliminates patrolling, rewetting and trenching.

DRENCH is a properly formulated wetting agent, readily soluble in all naturally occurring water supplies over a wide temperature range and does not require special nozzle equipment.

DRENCH saves *time, money* and *man hours* in the complete extinguishment of forest fires. Where penetration really counts, use DRENCH.

DRENCH is the *tried* and *proven* wetting agent.

ARNOLD-HOFFMAN & CO., INC.

Fire Specialties Division

PROVIDENCE, R. I.

ESTABLISHED IN 1815 • PLANTS AT DIGHTON, MASS. AND CHARLOTTE, N. C.
NEW YORK • BOSTON • PHILADELPHIA • CHARLOTTE

DRENCH

Trade Mark Reg. U. S. Pat. Office

Atlantic Coast Line Railroad

PAGEANT IN THE PINES

By JAMES S. WEBB, JR.

**Queen of the Pines—
Miss Jacquelyn Talton**

NEVER was the pine tree more glorified than on October 9, when a multitude of visitors joined with Valdosta, Georgia, townspeople to pay tribute to the forests. The occasion was the first annual Valdosta and Lowndes County Forest Festival, and the event-packed afternoon and evening saw a parade, the dedication of the Atlantic Coast Line and Lowndes County Demonstration Forest and a colorful pageant.

More than 10,000 people watched the festival get under way with a parade which included 28 forestry floats, bands and marching groups, climaxed by the passing of the royal float bearing the "King and Queen of the Pines," Cranston Gesell and Miss Jacquelyn Talton.

Following the parade, the scene shifted to the demonstration forest area, four miles east of Valdosta, where spectators witnessed the official dedication of the 465-acre project. Highlights of the ceremony, which was directed by Paul W. Schoen, general chairman of the festival, included an address of welcome by Harley Langdale, Jr., one of the small group who conceived the idea for the forest; the delivery of a prize-winning essay by Ann Coppage, Hahira High School student; a talk emphasizing the importance of forests in the development of the southeastern states by C. McD. Davis, president of the Atlantic Coast Line Railroad; and an explanation of Valdosta's responsibility to its forests and forest industries by George B. Cook, president of the Chamber of Commerce.

That night the festival reached its climax at Pendleton Park in Valdosta with an outdoor pageant entitled "Panorama of the Pines." The elaborately lighted and gaily costumed spectacle opened with the coronation of the King and Queen after which 150 students from Lowndes County schools depicted the importance of pines through the ages—from the time the Egyptians first calked their galleys with pitch to the present when pine is used in the manufacture of plastics and cloth.

Originally conceived by members of the Forestry and Naval Stores Committee of the Valdosta and Lowndes County Chamber of Commerce, the idea of a demonstration forest was presented to Paul W. Wright, industrial forester of the Atlantic Coast Line Railroad, who immediately joined the Valdosta group in formulating a plan of operation. The primary purpose, of course, was to establish a forestry "show place" to demonstrate advanced forestry practices to timberland owners and others, particularly youth groups.

A 465-acre tract of timberland east of Valdosta and owned by the Atlantic Coast Line Railroad, was ideally located for establishment of the demonstration forest and truly representative of most timberlands in the general area. Intermingled with predominant slash and longleaf pine are some low, wet hardwood and cypress bay areas. The present stand of timber is made up of a mixture of remnant and second-growth trees, the original timber having been turpentined and harvested 20 years ago. Like most surrounding forest areas, it could be made to graphically illustrate benefits of applying scientific forest management — improvement

(*Turn to page* 573)

The Olympics

(*From page* 539)

It reinforces their claims that the welfare of important centers of population depends upon getting additional timber. The emergency is not synthetic. It exists in terms of potential unemployment and widespread community dislocation. Yet the very gravity of the crisis also weakens the case of those who want the proportions of the national park diminished, for it emphasizes the wasteful logging practices of the past. The Wilderness Society, pointing to the reckless liquidation of forest resources in the hills back of Grays Harbor, has vowed that not a twig of Olympic timber shall ever suffer such a fate. So the issue is spectacularly joined.

The communities of the Olympic Peninsula believe that land sustaining 9,752,000,000 board feet of timber should be withdrawn from the park. The National Park Service surprisingly concurred in the withdrawal of 2,500,000,000 board feet of mechantable stumpage, then even more surprisingly cancelled the concurrence. The conservationists, led by the Wilderness Society, are unwilling that a cord of wood within the boundaries of the park should be withdrawn for commercial purposes.

The disputants seem so far apart that they cannot even communicate by smoke signals. Is any kind of reconciliation possible?

Proponents of a reduction in the area of the park admit the past mistakes of lumbermen in the Grays Harbor region. They concede that much valuable timber was gutted, that "cut out and get out" practices often prevailed. But they contend that the perpetual locking up of 17 billion board feet of fir, hemlock and cedar is merely compounding the original error with a bigger one. They insist it is trying to make one extreme justify the opposite extreme.

In support of their position, they quote a recent statement by Irving M. Clark, an official of the Wilderness Society. Said Mr. Clark: "The controlling reason for the establishment of the Olympic National Park was, in fact, the preservation of the forest. The high mountains, the glaciers, the sub-alpine flowery meadows and the watershed forests were already under protection in what remained of the Mount Olympus National Monument."

Advocates of reduction declare this statement is proof that the 848,000-acre park on the peninsula was created not to protect scenic grandeur and provide recreation, but

primarily to barricade off from possible lumber production a vast stand of trees. This, they charge, is neither a legitimate nor traditional function of the national park system. Parks, they claim, are to preserve unique scenery and not to lock up resources; the withdrawal of resources from commercial use is strictly ancillary to the custodianship of peaks, canyons and waterfalls.

However, Irving M. Clark has answered with the contention that "any logging in the Olympics region involves the destruction of the forest. This forest wilderness is still in its primitive state. It is no more overripe now than it was 500 years ago, or than it will be 500 years hence. It is in the nature of this forest for trees to mature and die, and then, when these fall to the ground, for new trees to spring to life on the decaying trunk. The Olympics must be guarded as a growing entity."

The first national park act adopted by Congress provided that Yellowstone should be "dedicated and set apart as a pleasuring ground for the benefit and enjoyment of the people." Would elimination of the lowland forests which rim Olympic National Park jeopardize the usefulness of the park "as a pleasuring ground for the benefit and enjoyment of the people?" This is the most gaping loophole in the opposition of the conservationists to any elimination of land from the park.

The white riffles where anglers may drop a lure, the lakes where campers may swim, the meadows where artists may sketch swaying wildflowers or a lithe model, the peaks where climbers may surmount glaciers and crags—these still would remain within the sovereignty of the park, even should the peninsula communities succeed in having 9,752,000,000 board feet of timber released for selective cutting.

Few national parks encompass dense forests valuable for the production of lumber. Most of the parks of the nation are on the wide plateau between the Pacific slope and the Continental Divide. The trees are comparatively small; they do not compare with the Corinthian-like firs and hemlocks of the Olympics. Of course, the colossal sequoia trees of the Sierra are an exception, yet even these woodland monarchs cannot match the timber of the Olympics. The 848 thousand acres of the Olympic National Park comprise infinitely the biggest park in the Pacific Northwest. The other two within the region are immeasurably smaller: Rainier National Park in Washington is 241 thousand acres, Crater Lake in Oregon 160 thousand acres.

A large national park is not undesirable *per se*, but the sawmills of the Olympic Peninsula have an annual capacity of 1,681,000,000 board feet. Yet only 650,000,000 board feet of timber have been felled on the peninsula in recent years, far short of capacity. The gap is likely to increase, for a sustained yield of 532,000,000 board feet is the maximum which forest engineers can foresee. With the population of the state of Washington up 26 percent since 1940, economists predict critical unemployment from Port Angeles to Grays Harbor unless new industries are developed or further supplies of timber tapped.

What would happen to any land withdrawn from the Olympic National Park? All the sponsors of congressional bills to accomplish a reduction agree that the land would be added to the contiguous Olympic National Forest, to be administered under Forest Service policies.

H. J. (Hoss) Andrews, regional forester in the Pacific Northwest, explains that the most of this timber which could be logged during any one year would be one and a half percent of the total acquired from the park. Sustained-yield practices would be observed.

The species *homo sapiens* being what it is, certain members of the Forest Service might derive malicious pleasure out of receiving back from the National Park Service some of the wooded land which was surrendered with such reluctance in the first place. Yet the Forest Service claims that its own record for encouraging recreation will bear comparison with that of the park people. The Mount Hood National Forest, for example, attracts a quarter of a million skiers annually, whereas Mount Rainier National Park is constantly criticized in Seattle for not providing adequate winter hospitality.

Toward the end of September, a House Committee on Public Lands, headed by Frank A. Barrett of Wyoming, held hearings in the vicinity of Olympic National Park. An impressive case was made for the elimination of the fir, hemlock and cedar valleys on the western and southern fringes of the park. It was a case which cited book, chapter and verse. Why lock up rich stands of timber when nearby communities needed employment, particularly when the timber was not imperative to the park's fundamental purpose?

Representative Russell V. Mack, in whose district lies a substantial portion of the Olympic Peninsula, urged a commission to overhaul the boundaries of the park. "From talking with timber cruisers, I am convinced," he said, "that there are areas in the present national park where the trees are overripe and, unless logged, will rot. It is an economic waste to allow this timber to decay. What I desire most is a long-term plan for making maximum use of both the recreational and commercial value of the park."

It was evident that many of the people opposing any reduction in the size of the park, with the exception of Irving Clark of the Wilderness Society, were not personally familiar with the terrain they believed they were defending. Most of them resisted reduction on doctrinaire grounds. The park had been established, and now there should be no tampering with its area. It was an argument for the *status quo* by those who had stoutly assailed the *status quo* a decade earlier.

The advocates of reduction suffered from one perilous omission. None of them could assure the committee that once the elimination of the lowland timber had been obtained, no further reductions would be sought. Representative Fernandez of New Mexico, seemed impressed by this gap in the presentation. What assurance had the committee that a reduction would be final? Satisfaction for one generation of Grays Harbor lumbermen might be small potatoes to their descendants.

For half a century the timber of the Olympics has stirred contention. Its impact on the National Park Service has been unique. In March of this year the service unequivocally approved the elimination of 56,396 acres of virgin "rain forest" from the park. This would have released 2,500,000,000 board feet of timber. The service announced that Washington State congressional members of both Republican and Democratic affiliation were prepared to indorse this reduction. Then in a little-noticed book review in the *Saturday Review of Literature* (The book was "Your Western National Parks," by Dorr Yeager, published by Dodd, Mead & Company) Harold L. Ickes assailed the department of government which he had headed longer than any other man in American history.

Mr. Ickes flatly accused National Park Service Director Drury of persuading Secretary Krug to ratify the proposed Olympic reduction. Drury had written the introduction to the book which Ickes was reviewing, but the ex-Secretary declared that both

Drury and Krug were evidently determined to "rape this unique national park."

A few weeks after the publication of these charges in the *Saturday Review of Literature* C. Girard Davidson, Assistant Secretary of the Interior, told the Barrett Committee at Lake Crescent that the department was against any reduction in the area of the Olympic National Park. Davidson also put the Interior Department on record in opposition to all pending legislation which would affect the Olympics. This included measures by Senator Harry Cain and Representative Henry M. Jackson for the 56,396-acre elimination, a bill by Senator Warren G. Magnuson for a small reduction of 6,000 acres near Lake Quinalt, and the Mack bill for a nine-member commission to study the entire boundary question.

Davidson explained to the Public Lands Committee that no one seemed happy about the 56,396-acre "compromise," and in this he was prob ably correct. Certainly Mr. Ickes and the Wilderness Society do not want the park borders constricted one inch; and the Olympic Peninsula sawmill communities contend that the elimination of 2,500,000,000 board feet would not be sufficient and that a 9,752,000,000 board foot reduction is their objective.

And so the issue rests—but not for long. It is almost sure to be the most controversial public land question before Congress during the next year. Many of its ramifications go to the heart of American domestic policy. Governor Wallgren of Washington, an adversary of reduction in the size of the park, is President Truman's closest friend from the Far West. This fact cannot be dismissed if a measure reaches the White House. The issue is also complicated by the unconscionable attempt of western stockmen to secure control of Forest Service grazing lands. Advocates of Olympic National Park reduction have been lumped with this wholly different movement, and it has definitely damaged their cause with the country at large.

Perennial wrangling and controversy detract from the natural advantages of the Olympic Peninsula—advantages to the nation as a recreation area, and to nearby communities as a source of raw materials. Sooner or later the rumpus must be settled. Polemics and debate are not fit partners of the snow peaks and green forests which sweep down majestically to salt water.

Refugees From the Ice Age

(*From page* 543)

the balsam fir, while the bark is similar in color and texture to that of the northern whitecedar. It also resembles the hemlock, but is a much smaller tree.

The torreya was discovered in 1833 by Hardy Croom, a young planter and amateur botanist of Tallahassee. Traveling over the primitive trails of that day, he came to the Apalachicola River where he had to wait for a ferry. While cooling his heels on the river bank, he noticed a stand of trees unlike any he had seen before. On his return trip he collected specimens.

Nothing in Croom's reference books gave him any clue to the identity of the tree. Dr. John Torrey, at that time professor of botany at the College of Physicians and Surgeons in New York City, was a noted authority of the day and Croom forwarded his specimens to him. But Croom had unwittingly posed a tough problem. Dr. Torrey made an exhaustive study and found no clue to the tree. Undaunted, he sent the specimens to the Scotch scientist, George W. Arnott, and the study continued, in the British Isles, the botanists there comparing the samples with dried specimens gathered from all over the globe.

Finally Dr. Torrey reported to Croom that the tree was of a genus never before recorded. In due course botanists named the tree torreya, and Croom, much pleased by this, according to Asa Gray, a famous botanist of that day, sent a young tree to Dr. Torrey in New York, where it was planted and thrived. Years later branches from this tree or its descendants were borne by members of the Torrey Botanical Club to the funeral of its founder. Dr. Torrey went to his grave with boughs of the tree laid upon his coffin in 1873. It is interesting to note that the club still exists and publishes two or three bulletins, one of which is entitled "Torreya."

In the meantime the torreya lived on in Florida probably surviving because of its isolated location and favorable topographic conditions. It is highly prized by farmers for fence posts and by sawmill operators for lumber with which to build cedar chests. According to park authorities, trees are too commonly cut for these purposes as soon as they get large enough. However, the tree apparently possesses great vitality and a coppicing habit, for quite often new sprouts appear and flourish on an old stump.

For many years this unusual and durable tree was considered to be of the same species as the Biblical Cedar of Lebanon, but this has been disproved in recent years. Local legend holds that it is the wood from which Noah built the ark. Many natives also believe that the tree can be transplanted successfully only in the dark of the moon and by taking a square block of earth with the roots. In spite of its rarity the torreya has a store of common names: gopherwood, savin and stinking cedar—the unsavory adjective referring to a peculiar smell of the sap or crushed fruits and needles. Actually its odor is not fetid but pungent, resembling the smell of green tomatoes.

Originally the torreya of Florida was thought to be the only tree of its family, but since its discovery and naming, three other kindred species of the genus have been found. One grows in California, and is known as the *Torreya californica.* The others are in China and Japan, respectively named the *Torreya grandis* and the *Torreya nucifera.*

Many years after the discovery of the torreya, Asa Gray, well-known American botanist and associate of Dr. Torrey, made a pilgrimage to visit the home of the tree named for his friend. He wrote of his long trip by carriage, steamboat and train in a "Pilgrimage to Torreya," one of the classics of early American botanical literature.

In more recent years another botanist, Dr. Herman Kurz, member of the faculty of the Florida State College for Women in Tallahassee, made a pilgrimage to the land of the torreya. It was during this trip in 1937 that he came across a group of isolated torreya trees in Jackson County on the west side of the Apalachicola River, which apparently had never been reported before. If previous mention had been made of them, they had been overlooked; for it was definitely established for many long years that the torreya grew only on the high bluffs of the east banks of the river. The significant thing about Dr. Kurz's discovery lies in the fact that the trees were found growing on open level land. Writing about his trip, he said, "The presence of these trees in this detached station, so dissimilar to their main and long-known habitats, is practically inexplicable."

However, the fact remains that the torreya appears to grow best in shaded and sheltered spots in a somewhat moist, sandy loam.

Propagation is by seeds, also by cutting and by grafting. There are two known specimens of this rare tree growing in the public parks in Tallahassee. One such specimen was planted by its discoverer, on the grounds of the state capitol in the 1830's and still holds forth in all of its crowning glory. The species would probably grow as far north as Washington, D. C., and St. Louis, Missouri. The Japanese variety has proved hardy as far north as Massachusetts.

Much less is known of the story of the Florida yew. The *Encyclopedia Britannica* and botanical publications list it and give a brief description, but that's all. Just why it has received such scant attention when the torreya has become celebrated is puzzling, for it is probably one hundred times as rare as the torreya. It is a species of yew unique in the world and unless carefully guarded may cease to exist.

Protection to a certain extent is given to both the Florida yew and the torreya by the establishment of the Torreya State Park. In this little known woodland which covers the hills and canyon-like ravines on the east bank of the Apalachicola River, there is a riot of trees and shrubs—not only natives like the yellow-flowering jasmine, wild azalea, redbud, dogwood, silver bell, magnolia, the great loblolly and longleaf pines, but also rare northern type trees which are seldom found in Florida.

The National Park Service has aided the state in establishing the park and improvements are being made in roads and other facilities, so that the park can be enjoyed by tourists. Located about 50 miles west of Tallahassee, the Torreya State Park can be reached over well-graded county roads either from a point 11 miles southwest of Greensboro off the Bristol-Quincy highway or by turning south off Florida No. 1 highway at Chattahoochee.

Thus it is that through the excellent cooperation of the state and national park services, scientists, tourists and Floridians alike wil have an opportunity to view and study the unusual and rare flora found in this section. And as they visit the park with its interesting botanical, geological and historical background they will marvel at the means which nature takes to preserve its creations. For here, far from their original habitat, stand two refugees from the ice age, the Florida yew and the torreya, perfectly adapted to new conditions of life.

Committee Nominates AFA Officers

The election ballot, which will be mailed all members of The American Forestry Association in December, will contain the following slate of officers for 1948, as nominated by the Committee on Elections:

For President: W. S. Rosecrans of California, chairman, California State Board of Forestry.

Directors for three years: Samuel T. Dana, Michigan, dean, School of Forestry and Conservation, University of Michigan; Charles H. Flory, South Carolina, state forester, State Commission of Forestry; Earnest L. Kurth, Texas, president, Southland Paper Mills, Inc.; George W. Merck, New Jersey, president, Merck & Company, Inc.; William P. Wharton, Massachusetts, president, National Parks Association. Director for one year: O. D. Dawson, Texas, vice-president and manager, Agricultural Department, Second National Bank of Houston.

For Treasurer: I. J. Roberts, Washington, D. C., vice-president, Riggs National Bank.

For Honorary Vice-Presidents for one year: R. E. Barr, Illinois, vice-president, Illinois Central System; Raymond J. Brown, New York, editor, *Outdoor Life;* C. S. Cowan, Washington, chief fire warden, Washington Forest Fire Association; Honorable James H. Duff, Pennsylvania, Governor of Pennsylvania; Milton S. Eisenhower, Kansas, president, Kansas State College of Agriculture; Mrs. Montgomery Hare, New York, chairman, Conservation Committee, The Garden Club of America; Palmer Hoyt, Colorado, publisher, *The Denver Post*; Miss Ethel L. Larsen, Michigan, chairman, The Conservation of Natural Resources Committee, General Federation of Women's Clubs; Frederic P. Lee, Maryland, chairman, National Arboretum Advisory Council; Benton MacKaye, Massachusetts, president, The Wilderness Society; Fred S. McConnell, Ohio, president, National Coal Association; Duncan McDuffie, California, president, Save-the-Redwoods League; L. B. Neumiller, Illinois, president, Caterpillar Tractor Company; W. M. Oettmeier, Georgia, president, Forest Farmers Association Cooperative; Frederic Law Olmsted, Massachusetts, landscape architect; Fairfield Osborn, New York, president, New York Zoological Society; A. C. Spurr, West Virginia, president, Monongahela Power Company; Harold Titus, Michigan, Michigan Conservation Commission; Dr. Alexander Wetmore, District of Columbia, secretary, Smithsonian Institution; Laurence F. Whittemore, Massachusetts, president, Federal Reserve Bank of Boston; Vertrees Young, Louisiana, vice-president, Gaylord Container Corporation.

Members of the Committee on Elections for 1948 are: Lloyd E. Partain, chairman; Stanley F. Horn and George R. Phillips.

Report From Korea

During the war when the Japanese diverted all coal to war industries, the Koreans were forced to cut deeply into the forests for fuelwood. According to the U. S. State Department, severe depletion of the forests has led to serious erosion with consequent flood damage and silting of the irrigation system. It has also made it impossible for Korean forests to meet urgent needs of the economy.

This specially designed Christmas Card

will announce

Your Gift

of Membership in

THE AMERICAN FORESTRY ASSOCIATION

to those friends and relatives you name below who like the outdoors, who enjoy vacations in the wilderness, who appreciate our country's forests and wildlife. Remember, a gift of membership in The American Forestry Association includes a subscription to AMERICAN FORESTS.

PICK OUT of your Christmas list, the friends and relatives who have this important quality of interest in their country's natural resources. They may live in the tallest building of a metropolitan center or in a quiet village or farm. But they will thank you every month of the year 1948 for your discernment in giving them *the thoughtful gift of Membership* in The American Forestry Association.

WHAT WILL THEY RECEIVE? (1) All the rights and privileges of Membership in The American Forestry Association for one year; (2) AMERICAN FORESTS each month for all of 1948, *and an extra issue, too*—the December 1947 issue to arrive in time to wish them Merry Christmas; (3) The specially designed Christmas card pictured above with your name on it as donor to announce your gift; (4) The wonderful satisfaction of being part of the public-spirited program for American Forestry.

Put their names and addresses on the coupon below, detach and mail it NOW. (With or without check. We will bill you later if you wish.) A year's Gift Membership is $5.

DETACH, FILL-IN AND MAIL THIS COUPON NOW

THE AMERICAN FORESTRY ASSOCIATION, 919 17TH STREET, N. W., WASHINGTON 6, D. C. *Date*.....

Please enroll the people named below as *Members of The American Forestry Association.* I understand that you will notify them of this gift by sending each of them a specially designed Christmas card with my name written in as donor, that you will send each of them the December 1947 issue of AMERICAN FORESTS to arrive at Christmastime, as well as the monthly issues for all of 1948.

( ) *I enclose $*..... *($5 per gift)* ( ) *Please bill me later*

GIFT TO

Name.....

Street Address.....

City and State.....

GIFT TO

Name.....

Street Address.....

City and State.....

(Additional names and addresses may be placed on a separate sheet and enclosed with this coupon.)

GIFT FROM

My Name.....

My Address.....

.....

MY NAME AS DONOR IS TO APPEAR ON THE CHRISTMAS CARD LIKE THIS:

.....

D

PLEASE MAIL THIS COUPON NOW . . . CHRISTMAS IS NEARLY HERE

Christmas Tree Farming

(*From page 546*)

upon length (leader twelve inches, surrounding laterals eight inches, for example). The same snipping is applied to the next lower whorl of branches with its turned up "candles," and, if need be, to the third whorl. Next year's buds will form at the point of pruning, and a compact bushy tree results. In the pines, this pruning must be started by the third year after planting. Otherwise, the final tree will not be compact from the ground up.

According to one Christmas tree grower of considerable experience, "only 65 percent of a Scotch pine plantation will be merchantable as Christmas trees without pruning."

When it comes to harvesting these well-spaced, well-pruned trees, most growers have too much volume to do the job themselves. The cutting must be hired. To be sure the cutting takes only trees of standard quality, tagging is helpful. If instructions call for cutting at ground level then replanting is in order, but this is best delayed until the first crop is completely removed. Even with pruning, no acre of trees will be 100 percent merchantable unless the grower wishes also to sell third-grade trees at lower price. By the third year, with some pruning and shaping in between, the last merchantable tree is harvested and the few remaining hopeless ones are consigned to the brush pile in preparation for a fresh start the following spring.

If, on the other hand, trees are harvested so as to leave at least two whorls of live branches, then the root system does not die. The bottom whorls of branches turn up and, by the second year, the best of the upturned branches can be selected to shape into another tree on the same stump. Approximately one or two years is saved in producing the second crop in this manner—also the expense of planting. However, the labor item almost matches this savings because of the extra time involved each year in shaping and pruning the "turn up."

Both Norway and white spruce develop "turn up" trees rather easily. In the case of balsam fir, however, true sprouting occurs directly below the stump cut and the second-crop tree goes straight up instead of curving, as in the case of a lateral branch becoming a new tree.

There is profit and satisfaction in Christmas tree farming. The point is to get started, because even with Scotch pine at least a half decade must elapse before the crop can be harvested.

Four Flaming Days

(*From page 542*)

Fire headquarters was established in Augusta, the state capital. From that point, the nerve center of the fire battle, stemmed in all direction for coordination of effort. From Dow Field came 600 soldiers; the University of Maine sent 1,400 students, 400 more came from Colby, 800 from Bowdoin, 600 more from Bates College. The Red Cross of Portland and Biddeford recruited and sent in thousands of volunteers. The American Legion did likewise. The Navy sent 50 power pumps and crews to operate them, and men to hold the road blocks. In addition, the Army supplied 10 tank and pumper engines with crews. Men and trucks were supplied by the State Highway Department.

Dairies and oil companies put their tank trucks to hauling water. Breweries and department stores — one group from as far away as Boston— used their trucks for hauling firefighters and evacuees.

Maine Forest Service airplanes from the northern districts were called into action, and these were supplemented by four planes from the Fish and Game Commission and four from the National Guard. Aircraft was used to transport men and material and to help size up the overall job from the air.

With his office running 24 hours a day for four straight days, Commis-

sioner Rendall was eager to accept all competent help. And he did not lack volunteers. From Washington, D. C., officials of the U. S. Forest Service flew in to take assignments under the Augusta office. H. J. Eberly, assistant chief of state and private fire control work in Washington, for example, was assigned to hold one sector.

As the fires progressed, the Maine Forest Service placed all its equipment in use—shovels, hose, pumps, tanks, etc. But in anticipation of the needs of the growing job, more equipment and supplies were ordered. From Seattle, Washington, 10,000 feet of hose and 13 pumpers were promptly delivered by plane; 50,000 feet of hose and pumps to keep it in use were brought in by the U. S. Forest Service.

Without interfering with the handling of commercial flights during the period, the Augusta airport under the emergency operation by the National Guard, handled between 60 and 70 tons of fire-fighting material a day. The airport served as a central point of delivery of airborne supplies. From there, material was dispatched to the fire-fighting fronts as demanded by the various fire bosses.

President Truman, at the request of the governor and the Maine congressional delegation, declared a state of emergency in Maine and thus was instrumental in cutting red tape and speeding up the delivery of War Assets equipment and tools of the Office of Civilian Defense.

Gradually, one by one, the fires were stopped, driven into the ocean or otherwise brought under control. By October 29, when the first rains came, the situation was well in hand. The rains, however, were just another fire-fighting device called in by nature to supplement the organization. Even as late as November 3, fires still menaced the towns of Whitneyville and Machias, but by that time control was so well established that news of these fires scarcely made the newspapers.

The fires gave the State of Maine an opportunity to bring into action all available equipment for fire fighting. Relatively new developments in this field proved highly successful. Aircraft and radio stand out as major instruments of fire control, and the value of landing fields and lakes was amply demonstrated. Heavy line-building equipment, especially bulldozers made a major contribution. Wetting agents, flown in by their manufacturers, were used on many of the fronts.

Sixteen persons lost their lives in the October fires in Maine. Out of a total of 250 thousand acres burned in the state in 1947, more than 233 thousand were lost in the organized towns in October, and around 7,000 in the northern forestry districts. A property loss of $32,000,000 is estimated, $10,000,000 of it at Bar Harbor where 300 dwellings and 60 estates were burned. In the state as a whole, 2,500 persons were made homeless when 836 houses were destroyed.

Total timber loss has not yet been estimated, but the Maine Forest Service has started plans for rehabilitation of the forest land over which the fires swept. With the cooperation of the U. S. Forest Service, a survey is being made to determine the exact acreage and the material which may be salvaged. Early estimates indicate that in the southwestern part of the state alone there are between 100 and 150 million board feet of sawtimber and thousands of cords of smaller material which may be salvaged.

The cooperative rehabilitation program calls for a marketing plan for the rapid harvesting and disposal of the killed timber, and for cutting plans which will reserve the living trees on areas missed by the fires or burned lightly. These will form the nucleus of new timber stands.

At the present time, it is easy to be a Sunday morning quarterback and tell exactly how the fire game in Maine should have been played. But it must be remembered that up till October 1947, Maine had one of the best fire records of any state in the East. Its town system of fire control and its ever-improving cooperation between state and town has shown a consistent reduction in fire losses. It is true that the system fell apart, temporarily, under the strain of unprecedented conditions. But the nation now is waiting to see what Maine and the rest of New England will do to avoid a similar blow-up in the future.

No time is being lost in seeking a solution. Already the legislative research bureau of the state of Maine is working on proposed measures to bring about closer coordination among all fire-fighting agencies, and to outfit these agencies with equipment for forest fire work.

The New England Council, a cooperative planning body for all the New England states has started to prepare for overall fire plans. The forestry officials committee of the Council met in Boston to draw up recommendations to be presented at a joint-meeting of New England governors on November 20.

Managing Your Woodland

(*From page* 560)

there's a farmer who for 26 years has been disregarding the rules. His story is told by Arthur B. Meyer, who as state chief of farm forestry projects, made a study of the woodland on a balanced farm.

Cape Girardeau County, Mr. Meyer says, is a rolling, prosperous farming area with a history linked to the muddy Mississippi which marks its eastern boundary. Woodlands are small, but not far apart, and are in fact about equal to the number of well kept homes you see. The soil is rich, which makes you suspect that the woodlands are wanted or they wouldn't be there. Along the main highway are roses, shrubs, and conifers. In the winter, farmers and their teams work in the woods amidst piles of posts, fuelwood, and logs.

It is apparent that the people here regard their land as important, worthy of care and interest, and that they have a sound respect for all products of the soil and all uses of the land.

Just outside of Jackson, the county seat, lies a 208-acre farm owned by Albert Milde and operated in partnership with his son, Frank. Terraces coil through sloping fields to a waterway with a living fence of multiflora rose, and cattle graze around the water trough below a fenced pond. A small black locust plantation is post size, with no indication of the borer it has avoided by thrifty growth.

You can walk through the clover field and wheat stubble to another part of the farm where a crop of tall three-log yellow poplar (tuliptree), white oak, and associated species will make you crook your neck and "Ah!" in spite of the mosquitoes.

Mr. Milde will be glad to talk about his farm, about past help from the Soil Conservation Service veterans' camp, about the present soil conservation district and the balanced farming program of the Extension Service. This, he will tell you, is just plain common sense, integrating each acre into a well balanced farm

enterprise based upon carrying capacity, soil capabilities, and good practical land use.

The 19-acre woodland has been under the care of father and son for 26 years. Management? They fenced out the livestock; kept out woods fires; cut the poplar and oak trees when the tops indicated they were stopping their growth, and cut the less valuable species as soon as they were big enough to use.

What has this woodland, bearing its rightful part of the farm production, been contributing to the farm income? Mr. Milde's figures won't necessarily stand up in court because only a portion of them came from written records, but his memory on the rest is well substantiated by the tangible evidence of house, buildings, and fences.

The 26-year income record for wood crops on Mr. Milde's 19 acres totals $10,310 in value. The woodland provided the lumber, valued at $1,700, for his eight-room house, $1,000 worth of lumber for his barn and outbuildings, and 78,000 board feet, worth $1,950, for miscellaneous use on his farm and town property. He sold 13,000 board feet for $650, and received $1,390 for stumpage. The sale of 5,000 posts brought him $500. An average annual sale of $120 worth of fuelwood totaled $3,120 in the 26 years.

Al Milde's woods have brought in about $20 an acre each year for the 26 years of his ownership. Perhaps that figure is not too important since he can afford to forget the past and look to the future. Mr. R. F. Holekamp, Conservation Commission's Farm Forester, estimates that about 10,000 feet an acre are left for future crops at probably higher values.

Sky Watchers

(*From page* 555)

An efficiently functioning observation force was slowly built, composed of men and women who bucked the appalling heat of such expanses of waste as the Mojave Desert or the gale-buffeted peaks of the High Sierra.

At the peak of the work, besides the thousands of voluteer posts built up near populous centers by hard-working Lieutenant Colonel John C. Gary and his staff, there were 271 forestry posts in the wild land areas of the state, plus 60-odd posts on the Mojave Desert, under federal, state and county jurisdiction.

Mountain prospectors and miners of the semi-hermit type made excellent observers. Two such occupied a Trinity forest post. Meticulously neat and orderly, they performed their duties well but each carried on his own culinary activities separate from the other. Occasionally one would formally invite the other to dinner, preparing dishes which he knew his companion liked. One invited the other to a Christmas dinner in the same formal way when they exchanged wrapped gifts, surreptitiously whittled from wood during off-duty moments.

The manning of Leek Spring lookout, 7,640 feet above sea level, during the second winter of the Aircraft Warning Service, caused no little concern to Forest Supervisor Edwin F. Smith of the Eldorado National Forest. The job demanded two observers with better than average physical health, resourcefulness and ability to "take it." The official was elated when Web Anderson, deferred from Army service until the following spring, with his young wife volunteered for the job.

The Andersons, both expert skiers and experienced mountaineers, remained at their snowbound post, without relief, from October until late May. In addition to their duties as observers, they were required to keep 15 miles of telephone line in good condition. Only once every two months did they have physical contact with the outside world. Then Anderson made a ski trip for mail to another post, 15 miles away.

During the long winter of the high country, the young couple moved about through deep snow tunnels.

Wiry, mountain-hardened, 64-year-old William C. Duncan had served as a ranger on Trinity National Forest for three and a half decades. His wife, equally spry and young appearing at 53, aided her husband in manning the Plummer Peak lookout for two winters and three summers. During one winter storm, Bill Duncan almost lost his life when caught outside the shelter of the station buildings. Parents of five sons, several of whom were in the service, and two daughters, family pride and loyalty kept the Duncans on their lonely mountain lookout when they could have been enjoying a deserved comfortable life in some urban center.

Mrs. Aileen Donovan, an Eldorado forest observer, shared a post with her forest guard husband during the

winter months. When spring came, she carried on with a woman companion. The other woman member of the team, an 18-year-old girl, once fainted dead away while on duty and one of Mrs. Donovan's most trying experiences was getting the unconscious girl down to earth from the top of an 80-foot steel tower.

Some couples serving on outlying posts miscalculated the time of "blessed events" and on several occasions the race with the stork was won only by a nose. In the case of one 19-year-old mother, the race with the traditional bird was lost.

This young wife and her husband, rated as very efficient observers, were already blessed with two small children. Arrangements had been made for hospitalization of the mother within the near future but the stork wasn't consulted in these calculations. With the important event imminent and with the husband unable to leave his post, help was summoned by radio and a bachelor forest guard arrived in his pickup truck.

A bed was fixed up in the back of the light truck and the prospective mother installed therein for the trip to town. The truck had traveled only a few miles when the driver was forced to stop, discard his chauffeur's duties and take on the duties of a midwife.

The news of the incident had spread to the city by this time and shortly after the birth a cavalcade of police cars arrived. The police escort transferred the mother and child from the pickup to a more comfortable car and the parade of vehicles, with sirens shrieking rolled into San Diego where the mother and baby were safely installed in a hospital.

Early in the war the Fourth Fighter Command and the Forest Service realized that the morale of the Aircraft Warning Service force would be a potent factor that merited most careful attention. Thus, to combat loneliness and boredom of the observers, the service encouraged its personnel to keep pets and to work at hobbies.

Dogs proved great companions to lonely sky watchers. A fox terrier owned by an Indian observer serving on a Trinity forest post learned that one of those unfamiliar objects passing overhead called for prompt action and appointed himself a sentry. Day after day he took his station and his enthusiastic barking invariably warned his master of approaching planes. A German shepherd dog on an Angeles forest post earned a similar reputation. This particular animal was silent in his warning, freezing to a point, nose in the direction of an approaching plane, sometimes a minute or more before human ears could detect the motor's hum.

Forest officers painfully packed 40 young chickens to the Blue Ridge station on the Klamath forest, anticipating a later reduction in the post's meat needs. They believed the birds would also provide off-duty interest for the observers. The chickens thrived but the district ranger noticed no diminution in their numbers. Since packing chicken feed was a hard job, he causually inquired one day as to when the post's dining table might be graced with fried chicken. The observers, a man and his wife, looked at each other somewhat sheepishly and finally the woman observer blurted, "Well, you see, we have become so attached to those birds we just haven't the heart to kill them." Later, the officers were forced to pack the whole flock of birds back down the mountain.

By encouraging lookout operatives to provide their own forms of recreation, the Aircraft Warning Service Command engineered its force past one of the steepest hurdles, the bugaboo of boredom, and maintained the 24-hour-a-day service at peak efficiency as long as there was any danger of enemy attack. This is a tribute to the ingenuity and farsightedness displayed by the Fourth Fighter Command and the U. S. Forest Service.

The complete saga of the fine work done by the Aircraft Warning Service force in California will probably never be completely told. It is still somewhat of a military secret written in the log books of hundreds of obscure posts now in the hands of the Army.

But it is safe to assume that Army strategists of the future who peruse those logs with an eye to the defense of the United States will pause at some point in their reading to reflect that these observers served their country well and that all the good soldiers who saw service during the last war weren't necessarily in uniform and overseas.

The civilians and soldiers of the Aircraft Warning Service of California made a gallant record. They merit the sincere thanks of their state and of their country.

Wood—Friend of Man

(*From page* 549)

they may fall out and so represent a weakness in structural lumber. But a live knot may be the most beautiful feature of a cabinet wood, as you will see if you look inside your cedar-lined clothes closet or chest.

Bird's-eye maple is due to hundreds of bark-bound buds that were finally buried by the expanding woody cylinder of the trunk. Yet they are there, refracting the light, when at last the veneer knives unlock their secret. The most fascinating grains of all are those found in burls, those bulbous swellings on the trunks of old trees. It isn't always certain what form of iniury causes these swellings, but burl wood is always heavier and denser than normal wood of the same species. That is one reason why my tobacco pipe of briar burl isn't catching fire as I smoke it—the wood elements are so dense and contorted they are almost like stone.

To name a wood at sight is a skill of the lumberman or the furniture dealer, but you and I can get to know the commoner kinds as we learn the faces of our neighbors. I dropped in one day to the shop of a cabinetmaker in my town, and asked if I might have any scraps left over from his work. He collected a basketful for me, and we went over them together, till I could recognize Douglasfir by its heavy growth layers of orange wood on a yellow background, and redwood by its lightness, its warm hue and the glossy sheen it loses when it is stained. He taught me rosewood with its sunset streaks of color, chocolate brown walnut, ruddy applewood, magnolia of a driftwood gray, and fooled me with a heavy block of pink wood that proved to be mahogany before it is given the deep cherry colored stain. I have added to my collection of wood blocks, and studied it, until I know many a wood even under stains and paints—and my nose is curious, too, about the smell of a log I find burning. My own study holds the sweet dry reek of oak, but anywhere in America has its particular hearth perfume — pinyon smoke in Santa Fe, fat pine in Carolina, mesquite floating out of desert chimneys in the Southwest.

For the final gift of wood to us is its sacrifice on our home altars. The companionable whisper of a burning

log is the teakettle song of the moisture in it; its aroma rises from the rich oils and fats and gases stored up through years of thrifty tree living. Sometimes as the flames penetrate to a hidden storehouse of the wood, the essences ignite in a blue sudden tongue of hissing flame. Gums and resins are driven seething through the cracks in the bark. Slowly into flame go the cellulose, the wood oils and gases. The mineral constituents, such as potash, silica and calcium remain as ash.

These are but escaping prisoners, caught when the tree was alive. The flesh of the tree, wood itself, is made up chemically of two complex substances, cellulose and lignin. Lignin is the cementing substance that holds the cellulose particles together. Cellulose is the part of wood that makes it woody. In the cellulose molecule, oxygen atoms hold more than 49 percent of the stock, and carbon more than 44 percent, with the rest owned by hydrogen. The molecular chain of these atoms is very long—long in the telling and literally long and narrow. From that fundamental fact we get the long fibers of wood. You could say indeed that one reason trees are tall is that the wood cells are "tall."

Scientists have found wood to be made up of little rods in a bundle. That's one reason wood is strong — nothing so hard to break as a bundle of rods. Yet the internal structure of the rods is hollow, with many branching passageways. Indeed, one gram of cellulose material may have an internal surface equal in area to your bathroom floor. That's one reason wood is light, as compared with the same volume of iron or stone, and why it makes such a good insulating material. Also this openwork structure makes wood receptive and permeable to stains and preservatives.

By comparison, steel, for instance, is a mass of fused, jammed metallic crystals, ponderous, rigid, unreceptive, without form, growth or plan.

But *wood*—wood is the product of life! Form and plan are in its very structure from the moment it begins to grow. In the tree, it has the power of reproduction, and the power to repair injuries, to cover old wounds and go on with a stout heart. It can overcome obstacles, get around things, split rocks apart, travel far in thirsty search for water. It can adjust to circumstances. It can endure, with an immortality all its own. Wooden piles under the streets of Venice have been found intact after a thousand years. Whitecedar in the swamps of eastern Virginia has lain buried an estimated 3000 years, yet it is being dug up today and sawed into boards that may last another thousand.

Wood even has the charm of its faults and flaws; each tree, too, is an individual; no two are alike, nor two boards from the same tree; each piece, with its grain and rings, is as different as your fingerprints from those of anyone else in the world. Wood reminds us, in its pliancy and resilience, of human flesh and, yes, even human spirit.

Say if you like wood has no immortal soul, that it has no thoughts, and no tongue to speak them. But let him who says this look in his own heart and produce for us a thought that will warm the hearth of a friend, or endure a thousand years.

Pageant in the Pines

(*From page* 562)

cutting to remove diseased, defective and undesirable trees; bay areas to be drained and improved; and all portions of the tract to be developed to produce optimum sustained yields.

The Coast Line traverses the large, productive forest areas of Georgia and being interested in methods to conserve the rich forest resources in the Southeast, granted a 10-year lease to the Chamber of Commerce group free of rental charges. The actual lease was presented to the Valdosta and Lowndes County Chamber of Commerce in April.

Plans are now under way to locate county headquarters of the Georgia State Department of Forestry on the tract which, with its modern fire control equipment that will include installation of a short-wave radio station, will further demonstrate the completeness of the project. The county headquarters will be materially assisted in its efforts to observe findings and results of demonstrations as applied to the forest and will transmit such information to various landowners in the area. A model forest worker's home will be constructed on the site and will be occupied by a full-time employee.

The project will be self-supporting. From the sale of forest products, improvements must be made, operating costs and taxes paid. And when adequate operating reserve is developed, a scholarship fund will be set up to aid deserving students attending forestry school.

That is the goal — ambitious, but practicable!

GENERAL HORTICULTURE, by Thomas J. Talbert. Published by Lea and Fribiger, Philadelphia 6, Pennsylvania. 452 pages, illus. Price $4.00.

The author, professor and chairman of the Department of Horticulture and Forestry, University of Missouri, has prepared this book to meet a real need of undergraduate students and progressive producers for a clear and concise treatise on general horticulture. The author has achieved his purpose. Technical and involved horticultural problems are discussed in simple and understandable words, and the 120 engravings add much to the reader's ability to put into practice the most advanced methods in horticulture. Each chapter is supplemented with a list of well-selected references.

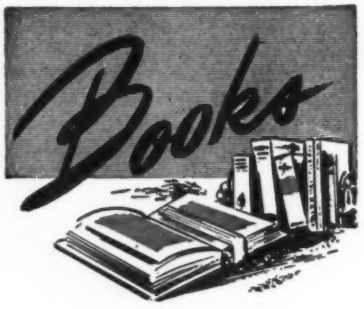
FOREST SOILS, by Harold J. Lutz and Robert F. Chandler, Jr. Published by John Wiley & Sons, New York City. 514 pages, illus. Price $5.25.

While the composition and growth of both forest stands and agricultural crops depend upon soil factors, an entirely different approach must be made to the study of forest soils as distinguished from agricultural ones. This new text stresses the practical applications of soil science to forestry. Incorporating knowledge found in American and European literature, the book will be of value to research workers as well as to practicing foresters.

H. J. Lutz is professor of forestry at Yale University and R. F. Chandler, Jr. is professor of forest soils at Cornell University.

THE ENCYCLOPEDIA OF TREES, SHRUBS, VINES AND LAWNS FOR THE HOME GARDEN, by Albert E. Wilkinson. Published by The Blakiston Company. Philadelphia, Pennsylvania. 486 pages, illus. Price $1.00.

A new book in the New Home Library series, this encyclopedia includes essential information for the home gardener. Part I is an alphabetical listing and description of the familiar shade trees, evergreens, flowering shrubs, vines and hedges. Part II contains detailed instructions for the selection, planting, transplanting, pruning and trimming. A full section is devoted to choice of grass seed, soil preparation, planting and care of lawns. Other sections cover foundation planting, hedges, windbreaks, background planting, roads and driveways and special types of gardens.



WHEN THE DOGS BARK "TREED," by Elliott S. Barker. Published by the University of New Mexico Press, Albuquerque, New Mexico. 209 pages, illus. Price $3.00.

This is an authentic western spine-tingler—the story of a man, his dogs and his horse in pursuit of mountain lions in northern New Mexico. The reader shares the thrills experienced by the author as he fights forest fires, is cornered on icy cliffs by lions, and is dragged by a horse in his narrowest escape from death. Woven into the story is an interestingly told account of the conservation problems and the lives and habits of wildlife.

The author, state game warden of New Mexico, shot his first mountain lion at the age of 14, served for 10 years with the U. S. Forest Service in the West and for 11 years operated a mountain ranch. His story is based on these experiences and those of his game and predator work on the 360,000-acre Vermejo Club estate.

SOUTHERN HORTICULTURE, by H. P. Stuckey. Published by Turner E. Smith & Company, Atlanta 3, Georgia. 688 pages, illus. Price $2.56.

A large part of the nation's fruits and vegetables come from the South. This book is a text designed to help the grower of fruits to produce better and more marketable crops. The author is an eminent horticulturist well equipped by training and experience to advise the home orchardist. Each chapter deals with a separate crop: peaches, apples, pecans, grapes, figs, dewberries and blackberries, strawberries, melons, tomatoes, sweet peppers and potatoes, and treats of all the operations and care necessary to raising a crop from scratch through to harvesting and marketing. Additional chapters discuss fruit for home use, vegetables for home use and landscape improvement.

The publications listed below must be ordered direct from the addresses as given and not through the Association.

Extractives from Northeastern Woods, by Northeastern Wood Utilization Council, P. O. Box 1577, New Haven, Conn. Price $1.00.

The Conifers of Maine, by Fay Hyland. Agricultural Extension Service, College of Agriculture of the Univ. of Maine, Orono.

Northeastern Loggers' Handbook, by Fred C. Simmons. Northeastern Forest Experiment Station, 614 Bankers Securities Bldg., Phila. 7, Pa.

Trade in Forest Products Between Finland and the United States of America, by L. Runeberg. Helsinki University, Helsinki, Finland.

A Standard City Ordinance Regulating the Removal, Planting and Maintenance of Shade Trees in Public Areas and Standard Arboricultural Specifications and Standards of Practice, reprinted from the Proceedings of the Twenty-first National Shade Tree Conference, 1945.

Water and Our Forests, by Bernard Frank and Clifford A. Betts. U. S. Dept. Agri. Misc. Pub. No. 600. U. S. Gov. Printing Office, Wash., D. C.

Revised Forest Statistics for the Lake States 1945, by Forest Survey Staff. Lake States Forest Experiment Station, University Farm, St. Paul, Minn.

The Planting and Growing of Cork Oak Trees in the United States, by Giles B. Cooke. Crown Cork & Seal Company, Inc., Baltimore 3, Md.

Forestry Practice. Forestry Commission Bulletin No. 14. His Majesty's Stationery Office, York House, Kingsway, London, W. C. 2. Price 2s. od. net.

A Descriptive Guide to Rocky Mountain National Park, by Raymond Gregg, park naturalist. Available at park museums and contact stations. Price 25 cents.

Maryland Board of Natural Resources, Second Annual Report 1945. Analysis of conservation situation and problems. Board of Natural Resources, State Office Building, Annapolis.

Forest Facts for Georgia, by B. F. Grant and A. E. Patterson. The Agricultural and Industrial Development Board of Georgia in cooperation with the Georgia Dept. of Forestry and The American Forestry Assn. For. Bull. No. 10.

Human Relations

The New York State College of Forestry at Syracuse University is the first forest school to inaugurate a supplementary course on "Human Relations in Forestry." Dr. Joseph S. Illick, dean of the College of Forestry, commenting on the importance of human relations in forestry said, "I have yet to find a single instance where a forester failed wholly for the lack of technical training, but in practically all instances of failure it was because of a lack of an understanding of human relations."

The first lectures, to cover a period of five weeks, will be given by R. Lynn Emerick, former state forester of Pennsylvania.

Kentucky

(*From page* 558)

and because of war conditions. In 1946 the division had 28 full-time employees. At the same time the state fire control organization had 28 fire towers and over 336 miles of telephone lines; 18 additional towers are to be erected, and 88 more miles of telephone lines will soon be built. There are enough trucks, pumpers and other fire-fighting tools to equip 2,400 men and very shortly additional equipment will be added to equip 1,500 more fire fighters.

The forest fire control record over the years is improving. In a 10-year period, the average size of the fires has dropped from 64 acres to 55 acres. Between 1935 and 1944 the total number of fires each year decreased from 408 to 303, and the percent of acres burned went down from 3.32 percent in 1935 (with approximately 800,000 acres under protection) to .64 percent of area in 1944 (with more than twice the area, or 1,671,000 acres, under fire control). At present the total area protected adds up to something over 2,000,000 acres. Indications are that the burned area for the spring of 1947 will be less than one-half of one percent. Another good sign is that law enforcement is becoming more effective where it affects burning the woods. The people and their law officers are beginning to notice the forests. They don't like to see them burn.

Right now the Kentucky Division of Forestry is doing a good job on about one-sixth of the state's 12 million acres of forest land and is a big help on millions of additional acres. The forest landowners in many counties not under organized fire control get encouragement and in-

spiration from the work of the division, and increasing numbers of owners are beginning to notice their forests. However, there has been something wrong in the State of Kentucky. Until quite recently, people have not been thinking about the forests.

In 1935, the annual appropriation for forestry by the State General Assembly was only $9,000. In 1945 the appropriation was $50,000 and the total funds for forestry were about $113,000, a little more than $52,000 of this money coming from the federal government. The 1946 General Assembly raised the annual appropriation to $75,000 for the fiscal years of 1946-47 and 1947-48.

In 1946, another law was passed which supplements the existing forest fire patrol law, and establishes machinery whereby those counties which can afford it, and elect to do so through their fiscal courts, may cooperate with the Division of Forestry in county-wide protection from forest fires, thus relieving individual landowners of direct financial responsibility. In counties which elect to cooperate with the Division of Forestry under this law, the division will be relieved of a tremendous burden of obtaining cooperative agreements, collecting fire fees, and keeping books for thousands of individual landowners; thus field men can spend full time actually preventing and controlling fires.

Still another statute amends the existing fire control law by (1) making the lessee of timber rights responsible for fire patrol for the duration of his lease; (2) definitely requiring the owner or lessee to either provide an adequate fire patrol, or pay to the Division of Forestry, at such time as is specified by the division, one cent an acre a year for each acre of timberland of which he is the owner, to help finance patrol by the Division of Forestry. These are good amendments, which will make it must easier for the division to enforce the fire patrol law and collect fire fees.

Yes, Kentucky forests are beginning to be noticed. A law giving the Division of Forestry additional funds on a percentage basis, if the current state revenues go above a total of $39,000,000, seems to be working out so that the division will get considerably more funds. A pay raise was effectuated by another law, which will enable the division to pay salaries for technical personnel comparable to those of other agencies. Still another law makes the entire force of game wardens ex-officio fire prevention officers. There is now a penalty for burning out or smoking out game in the woods.

A start is being made on the establishment of county forests by a new law, which authorizes county fiscal courts to purchase or otherwise acquire and operate lands for county forests. Although mainly sponsored by representatives from Jefferson County (wherein lies the city of Louisville), which is planning a forest of from 25,000 to 35,000 acres, any county may take advantage of it.

The enactment of so much new and useful legislation is perhaps the most convincing sign that Kentucky forests are being noticed. A few years ago it was difficult to find a state senator or representative who would willingly introduce a forestry bill in the Assembly; now they are competing for the privilege of introducing such legislation in their respective houses.

What Kentucky most needs for the building up of her forests and forest industries and the realization of many other benefits from her forests, is for more of her people to notice her 12 million acres of basically excellent forest land that has been so neglected, inadequately protected from fire, and generally badly treated.

AUTHORS

WILLIAM S. BROWN (*Sky Watchers of the Hinterlands*), recently retired from the U. S. Forest Service, is an authority on the region he writes of. J. A. COPE (*Christmas Tree Farming*) is extension forester, Cornell University, Ithaca, New York. ED. R. LINN (*Kentucky's Forests*) was regional consultant on the Association's Forest Resource Appraisal. BLANCHE A. MCKNIGHT (*Refugees from the Ice Age*) is a writer of Arlington, Virginia. DONALD CULROSS PEATTIE (*Wood—Friend of Man*) is a nationally known writer of Santa Barbara, California. JAMES S. WEBB, JR. (*Pageant in the Pines*) is public relations representative of the Atlantic Coast Line Railroad Company, Wilmington, North Carolina.

For once they actually agree!

Hope and Crosby, in the movies, seldom see eye to eye. But there's one thing they really do agree on—they both think U. S. Savings Bonds make wonderful Christmas gifts!

SAYS BOB: "They're swell for *anybody* on your list. You couldn't pick a nicer, more sensible, more welcome present. Even Crosby knows that."

SAYS BING: "I hate to admit it, folks, but Hope is right. And remember this—you can buy Bonds at any bank or post office in the U. S. A."

BOB AND BING (together): "This Christmas, why not give the finest gift of all—U. S. Savings Bonds!"

Give the finest gift of all ... U.S. SAVINGS BONDS

Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.

THE INDIAN has always symbolized alertness, speed and ability to go into action fast. With INDIAN FIRE PUMPS you, too, can be ready for all types of fire fighting. Make INDIANS your chief means of fire protection.

PATENTED

Properly formulated wetting agents may be effectively used in INDIAN FIRE PUMPS, including galvanized steel tanks now coated on the inside with asphaltic base paint. Also effectively used in INDIAN solid brass and chrome-plated tanks.

Be ready to go when fire strikes—USE INDIAN FIRE PUMPS

A crew of fire fighters equipped with INDIAN FIRE PUMPS rests after extinguishing a large fire.

Every INDIAN FIRE PUMP is a one man fire department in itself. Slung on the back, it goes into action with lightning speed. Any water supply serves for quickly filling the 5 gal. tank. Easy pumping throws 30 to 50 ft. stream or nozzle adjusts to spray or fog mist.

SEND FOR CATALOG and PRICE LIST

D. B. SMITH & CO.

405 MAIN ST.

UTICA 2, N.Y.